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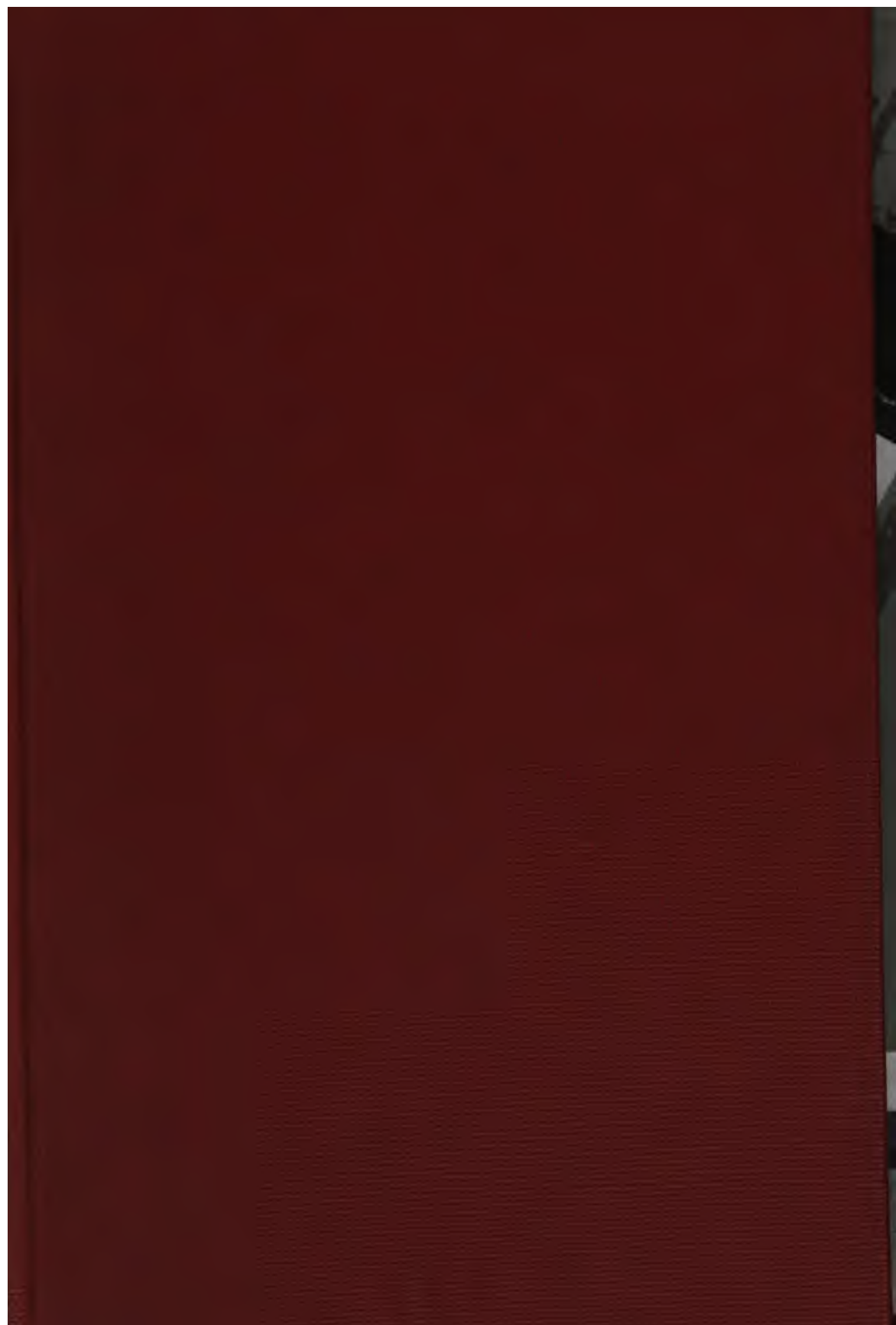
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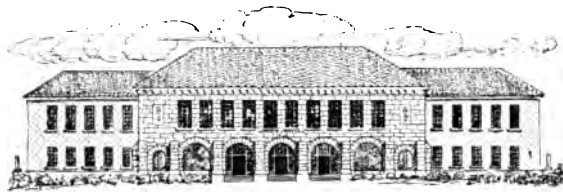
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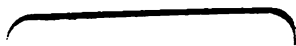


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**UNIVERSITY OF ILLINOIS
SCHOOL OF EDUCATION**

BULLETIN NO. 18

**SUGGESTIONS AND REFERENCES FOR
MODERN LANGUAGE TEACHERS**

Second Edition Revised and Enlarged

EDITED BY
THOMAS EDWARD OLIVER, Ph.D.
Professor of Romance Languages



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PREFACE TO THE SECOND EDITION.

The first edition of this bulletin appeared November 23, 1914 as Bulletin No. 12 of the University of Illinois School of Education. Inasmuch as its publication had somewhat the nature of an experiment, the edition was rather limited. The reception accorded the first edition came as a gratifying surprise to its editor and sponsors. It became at once clear that a real want had been met. When therefore the requests for the bulletin continued to increase far beyond the supply, arrangements were made to prepare and to issue a second edition.

As stated in the Foreword of the first edition, the bulletin was "an outgrowth of the idea of having at the University of Illinois an Information Bureau for Modern Language Teachers in the state." This idea is still paramount. However, the bulletin has proved of use not only to teachers in Illinois, but there have come requests for it from all over the country.

As far as is known, this Illinois bulletin is the only one devoted equally to German, French and Spanish. Other institutions have prepared bulletins for teachers of German only. The pioneer in this path appears to have been the University of Wisconsin which issued in 1907 the first edition of Professor M. Blackmore Evans' *The High School Course in German*. The third edition of this practical bulletin, revised by Charles M. Purin, appeared in September, 1912.¹ In July, 1915, the University of Texas issued a bulletin by Professor Eduard Prokosch entitled *The Teaching of German in Secondary Schools*,² and in August, 1916, the University of Minnesota published a pamphlet prepared by Professor Carl Schlenker with the title *Bulletin for Teachers of German*.³ This Minnesota bulletin adopted a number of features of the first edition of the Illinois bulletin. This second edition has in turn made some use of the Schlenker bulletin, for which, however, due acknowledgment is given here and in subsequent pages. As far as the present editor knows, the above bulletins are the only publications of American colleges which discuss methods of

¹Bulletin of the University of Wisconsin. No. 514. High School Series No. 2. Madison, Wisconsin. September, 1912. 37 pages. Price ten cents.

²Bulletin of the University of Texas. 1915. No. 41. July 20, 1915. Austin, Texas. 54 pages. Price ten cents.

³Bulletins of the University of Minnesota. Current Problems No. 8. Minneapolis, Minnesota. August, 1916. VI + 41 pages. Price twenty-five cents.

teaching, and offer suggestions, both methodological and bibliographical, to the teacher of modern languages in the secondary schools.

This second edition of the Illinois bulletin is considerably enlarged. Should a later edition be found necessary, a division of the subject into at least two bulletins, one for Romance and the other for German, may prove advisable.

The editor wishes to acknowledge gratefully the help of many friends, some of whom have contributed liberally of their time. His appeal for aid published in the Foreword of the first edition met with gratifying response, a fact which still further shows what favor this first effort encountered. Among those whom the editor desires to mention by name are Dr. Carl A. Krause and Mr. A. Kenngott. Of his more immediate colleagues the editor wishes to thank particularly Professor John D. Fitz-Gerald for his continued interest and help in the Spanish side of the bulletin. To Dr. Charles A. Williams is again due most grateful acknowledgment for invaluable aid in the choice of material for the German sections of this pamphlet. To Dr. Joseph E. Gillet likewise the editor wishes to express grateful appreciation. It is only by such cooperation that a work of this character can be carried to success. The editor desires, therefore, to repeat his appeal for assistance. Doubtless many errors in the matter of editions, prices or similar details, still exist. The continuance of the great world war has made it difficult to obtain the latest information on many points.

Owing to the fact that the other Romance languages, Italian and Portuguese, as well as Norwegian and Swedish on the Germanic side, have as yet little place in the secondary school curriculum, the editor has not felt the need of including them in this second edition, despite several requests to do so. Perhaps the need of such inclusion will become more imperative later.

THOMAS EDWARD OLIVER.

June, 1917.

I. THE TRAINING OF THE TEACHER

The wide-awake teacher will naturally wish to improve his efficiency in every possible way. Nothing is so stimulating as visits during the summer vacations, for travel or study or both, to the country whose language he is teaching.

Many prominent educators insist that there should be a minimum residence requirement of one year in the land whose language a person expects to teach. While even this minimum may prove costly in time and money, nothing will pay larger dividends in the end than such an investment.

NOTE: For those unable to go abroad it seems hardly necessary to call attention to the summer sessions at the several larger universities of the United States. Often varied courses under competent American and foreign teachers are given for very moderate fees.

Persons able to devote a whole year to study in an American university should consult the valuable book by Professor Charles H. Handschin, *The Facilities for Graduate Instruction in Modern Languages in the United States*. Oxford, Ohio, Miami University Publications. May, 1914. It is to be hoped that successive editions of this book may appear.

A. OPPORTUNITIES FOR TRAVEL AND STUDY.

a. IN EUROPE GENERALLY.

1. Write the *Boston Travel Society*, 601 Boylston St., Boston, Mass., for information regarding their "Language Conversational Tours" to France, Germany, Italy, Spain. The cost for an extended trip is less than \$400.

2. The *Bureau of University Travel* (Ralph E. Towle, A.B., General Manager), Trinity Place, Boston, Mass., offers well-planned and admirably conducted journeys to all parts of Europe. Competent specialists give lectures on the history and culture of the nations visited, and reading courses are also arranged in connection.

3. Under the auspices of the Modern Language Department of Louisiana State University study tours are arranged to visit France and Germany. These parties are made up mostly of teachers of French and German. Write Professor Chas. H. Stumberg, 623 Lafayette St., Baton Rouge, La., for details.

4. General Information: The cost of a European trip may be greatly reduced by patronizing the so-called one-class steamers of the several lines. Both the larger German companies, the Hamburg American, and the Norddeutscher Lloyd, as well as the French Line (Compagnie Générale Transatlantique), run excellent boats in this service. Some of the English lines also have a service of this character.

5. The *International Bureau of Students*, 40 Mt. Vernon St., Boston, Mass., keeps track of the several study-tours that are organized from time to time for students. Write for information.

6. Announcements of study-tours are not infrequently made in reliable American newspapers and periodicals.

7. The *International Residence Association*, 419 West 117th St., New York City, has offices in the "Deutsches Haus" under the control of Columbia University. It aims to keep a certified list of residence addresses in the leading university cities of the world for students and travelers of moderate means. The European war has caused a temporary suspension of the activities of this organization, but it plans to resume its work "as soon as former commercial relations are again restored".

8. Information of a general kind regarding libraries, universities and learned societies in Europe may be found in the annual editions of "Minerva; Handbuch der gelehrten Welt". In this connection attention is called to the article "Libraries" in the *Encyclopedia Britannica*, which contains a surprising amount of valuable information.

9. "A Handbook on Foreign Study" compiled by H. J. Darnton-Fraser for the "International Academic Committee" and published in a first edition 1909 at Edinburgh University. This contains most valuable and practical information regarding all the leading continental European universities and the conditions of life and study therein. It is a most thorough compendium.

10. A valuable reference book is the *Annuaire de la Vie Internationale* containing information about the various international *Unions, Associations, Instituts, Commissions, Congrès, Expositions, Publications*, etc., etc. It is published in Brussels at the Office Central des Associations Internationales.

b. IN FRANCE, OR FRENCH-SPEAKING COUNTRIES.

1. *Summer Educational Tour of France* for American teachers of French. An admirable opportunity to improve one's French and learn by actual contact with French life. The third annual tour was in 1914. Address for information "The France-America Committee", 2 Rector St., New York City. The cost including all charges is \$500.

2. *Kroher Universitäts- und Ferienkurse* für Ausländer in Frankreich, Belgien, und der Schweiz. Address for information Kommissionsverlag von C. Winter, Dresden, Germany.

3. The various French universities have organized summer courses with especial reference to foreigners. In connection with passage on the French Line half-fare rates are offered by the French railways from Paris to the university where one desires to study; for details of this arrangement write the agents of the French Line at 139 N. Dearborn St., Chicago, or 304 N. Sixth St., St. Louis.

Below is a list of such universities with comments:

Université de Caen.

Université de Dijon.

Université de Lille, which holds its summer courses at Boulogne-sur-mer.

Université de Rennes, which holds its summer courses at St. Malo, Brittany.

Université de Besançon; Université de Grenoble, both beautifully located in the mountains.

Université de Poitiers, and in connection with this the "Institut d'Etudes Françaises de Touraine". Write for booklet and all information to M. le Professeur Sourdillon, Directeur des Cours, Lycée Descartes, Tours, France.

Université de Bordeaux. Write to the Comité de Patronage des Etudiants Etrangers de l'Université de Bordeaux, or to the Corresponding Member of this Committee, Prof. J. D. Fitz-Gerald, University of Illinois.

Paris. The University of Paris has no summer session itself, but one can profit greatly by the courses of the *Alliance Française* which are held at 101 Boulevard Raspail.

4. The Swiss Universities in French-speaking Switzerland also offer summer courses. No more beautiful locations than Geneva, Lausanne, or Neuchâtel could be found.

The official agency of the Swiss Federal Railroad, 241 Fifth Avenue, New York City, will send free upon request descriptive and illustrated material concerning Switzerland.

5. In French-speaking Canada a summer course is offered at McGill University in Montreal.

6. Persons able to spend an entire year or longer are advised to communicate with the authorities of the universities mentioned in 3, 4, or 5 above. For such persons Paris, on account of its wealth of cultural opportunities, offers an especial charm. The Universities of Grenoble, Montpellier, Lyons, Dijon, are particularly interesting to foreigners for whom special courses have been organized.

The following references may prove useful:

—*French University Degrees, Doctorates and other Diplomas in French Language and Literature. A Handbook of Information for Foreigners*, published by the Comité de Patronage des Etudiants Etrangers (at the Sorbonne). Second edition. Paris 1910.

—G. Duflot, *Guide illustré de l'Etudiant Etranger à Paris et en France*, published annually by the Librairie Larousse, and for sale at 58 rue des Ecoles, Paris. 1.75 francs.

—A little pamphlet containing information of value to American students in France is *Les Etablissements français d'Enseignement*, published by the Ligue Française de Propagande du Comité France-Amérique, whose 'siège social' is 21 rue Cassette, Paris.

—*Anleitung zum Studium der französischen Philologie für Studierende, Lehrer und Lehrerinnen*, by Dr. Edouard Koschwitz. 4th edition by Gustave Thureau. Marburg, 1912, published by N. G. Elwert. 4.60 marks, bound.

- Handbuch für einen Studienaufenthalt im französischen Sprachgebiet*, by Ph. Rossmann and A. Brunnemann. 4th edition. Marburg, 1912, N. G. Elwert. 3.75 marks, bound.
- Special information desired may be secured by addressing Monsieur le docteur Friedel, Directeur du *Musée Pédagogique*, 41 rue Gay Lussac, Paris.
- The Secretary of the *Alliance Française*, Professor Louis Delamarre, has as one of his functions to serve as "intermédiaire entre les étudiants américains et le bureau de renseignements établi à Paris à l'usage des étudiants étrangers". Address the Secretary, 200 Fifth Avenue, New York City.

7. A movement was started in March 1916 to present to American students the advantages of study in French universities and the contributions of French scholarship to all branches of learning. This movement is under the general direction of Dean John H. Wigmore of the Law School of Northwestern University aided by eminent American scholars in all fields. A book is now in press which will set forth the achievements of French scholars in every line of scientific and historical study. The book will also give practical information regarding the present opportunities for study in all the French universities, especially Paris, and will describe courses of study and conditions regarding the attainment of degrees. The great laboratories, libraries, archive collections and museums of France will also be described. The title of this manual will be *French Contributions to the World's Scholarship, with a Survey of Opportunities for Graduate Study in French Universities: An Appreciation by American Scholars*. It is published by the *Franco-American University Fellowship Foundation* at the price of one dollar and may be secured of the editor Dean John H. Wigmore at 31 West Lake Street, Chicago.

The Committee of which Dean Wigmore is chairman is called *The Committee on Graduate Studies in France*.

In France a similar movement is under way more especially for the purpose of emphasizing the advantages of the University of Paris. A committee of which Professor E. Durkheim is chairman is preparing a manual setting forth the opportunities for study at the French capital and giving detailed information regarding living conditions in that city.

In this connection should be mentioned the efforts of the *Franco-American University Fellowship Foundation* to create fellowships for American graduate students at French universities. Already several \$1,000 fellowships, each for two years have been created, and funds for additional fellowships are being secured. These fellowships will be allotted for the first time in 1918. The chairman of the Fellowship Committee is Charles A. Coffin, 30 Church Street, New York City. To him or to Dean John H. Wigmore, 31 West Lake Street, Chicago may be addressed all enquiries concerning these fellowships.

8. PARIS. Much information concerning Paris and its educational opportunities is found in the references above under 6. For Paris itself the Baedeker guide is almost indispensable. Persons desirous of pursuing serious study at the University of Paris and its associated institutions are advised to purchase the pamphlet: *Littératures et Langues Romanes*; published annually by the

Librairie Ancienne Honoré Champion, and for sale at all Quartier Latin book stores. Here will be listed all the courses in Romance Languages and Literatures given each year in Paris. Students from America and England will find a special adviser in Professor Mario Roques, 2 rue de Poissy, Paris, whose especial interest it is to help them in choosing their work.

—An institution little known is the *Société pour la propagation des langues étrangères en France*, which has its offices and class rooms in the Hôtel des Sociétés Savantes, 28 rue Serpente, near the university. Courses are here offered in Spanish, Italian, German, Russian, English. Similar courses are offered in other localities in Paris. The annual fee for entrance to any or all of these courses is ten francs. The central office is a sort of information bureau for language students generally.

—The *Institution Lasnier-Lachaise* (9 rue Dupuytren, near the Ecole de Médecine) has classes (each limited to six pupils) for the careful study of French. Special classes for English-speaking pupils exist also. All classes meet daily.

9. Well recommended is the Springfield, Massachusetts, *Summer School of French and Spanish* which will hold its second session in 1917. The main emphasis will fall upon pronunciation and diction. The announcement declares that "the courses will be similar to those formerly given, but not now available in the vacation schools of Paris and other European cities." Address Charles F. Warner, Secretary, Room 16, Board of Trade Rooms, Springfield, Mass.

c. IN GERMANY.

1. A German Travel Study Class was conducted in the summer of 1914 to Germany under the direction of Professor M. H. Haertel of the University of Wisconsin, Madison, Wis. The cost was \$350. Write him for future plans.

2. The Universities of Jena, Marburg, Freiburg (in Baden), and Greifswald offer vacation courses of great value to the teacher of German. For information regarding these courses write the "Sekretariat der Ferienkurse" of the universities mentioned.

3. The summer semesters of the German universities begin about the end of April and last until about the first of August. It is thus possible to attend at least half of this time, provided the teacher can leave America on or before the first of June.

4. A full year's study is of course far more desirable. To learn what courses are to be offered any given semester at all the German, Austrian and Swiss universities where German is the official language, one should consult the *Vorlesungs-Verzeichnis der Universitäten und Hochschulen Deutschlands, Deutsch-Oesterreichs und der Schweiz*. This pamphlet is for sale at all book stores in Germany at a cost of 60 pfennigs. It may also be secured through importers of foreign books, G. E. Stechert & Co., Lemcke & Büchner or W. R. Jenkins, all of New York City.

5. For all information not otherwise readily available the teacher may address the *Königliche Preussische Auskunftsstelle für Schulwesen*, care of Herrn Dr. Kullnick, Berlin-Schöneberg, Grunewaldstrasse 6-7.

6. AMERIKA-INSTITUT. This admirable institution was organized in 1910

by Professor Hugo Münsterberg while Harvard exchange professor at Berlin. It is under the auspices of the Prussian government, and occupies eight rooms in the Königlische Bibliothek of Berlin. The address is Universitätsstrasse 8. II, and its present director is Dr. R. W. Drechsler. All its services are done without any fees. Concerning its functions Prof. Münsterberg wrote as follows:

"Its purpose is to be a kind of clearing house for the international cultural interests. It serves the interests of Germans who want to have information about American affairs or who want to go to America for scholarly or artistic or general interests, and in the same way it serves Americans who seek material concerning Germany or who go to Germany for any scholarly, literary or other public interests. It has a large American library [now about 12,000 volumes].

"In connection with the Smithsonian Institute in Washington it serves the free exchange of printed material between the two countries. It arranges the copyrights for the two lands, translations and similar means of bringing the civilization of the one land nearer to the understanding of the other."

Leaflets descriptive of the above activities are gladly furnished.

7. The *Auskunftsbureau der deutschen Bibliotheken* with offices in the Königlische Bibliothek, Berlin, is a most useful aid to one engaged in research in Germany. For the fee of 10 pfennig in stamps for each enquiry this Bureau will inform one of the location of any book desired, provided it is in any German library. Enquiries are also made of foreign libraries for a slightly larger fee. The Bureau will send to any one interested the printed regulations which govern its admirable service. In connection with the liberal system of inter-library loans which exists in Germany, this Bureau enlarges greatly the opportunities for research study.

Scholars outside of Germany may avail themselves of this service by use of the "reply coupons" purchasable at all postoffices. An international extension of library-loans is one of the hopes of the future. Before the outbreak of the great war, a very considerable start had been made in this direction.

8. It is sometimes possible to join excursions of German students in their walking tours. Professor Dr. Max Walter of the Musterschule, Frankfurt am Main, might be addressed on this subject. He will be found always ready to aid Americans in every way toward attaining the purposes of their sojourn in Germany.

9. For those who are unable to visit Germany an admirable substitute may be found in the summer session of the "National German-American Teachers' Seminary", conducted by Director Max Griebisch and an able faculty at 558-568 Broadway, Milwaukee, Wisconsin. Circulars may be had on application, wherein it may be seen that it is quite feasible to find a thoroughly German atmosphere in this most German of American cities. The session lasts five weeks and the school fees are \$20. The summer of 1917 will be the fifth year of this Seminary which has been a pioneer of the Direct Method. The Seminary now offers a two-semester course for university and college graduates at a cost of \$50 a semester. Write for complete particulars.

10. A similar "German Summer School" under the direction of Professor L. L. Stroebe has been held the past four years in connection with the Summer Session of Middlebury College. The fifth year of this school will run from

July 7 to August 17, 1917. Address the Director of the Summer Session, Middlebury College, Middlebury, Vermont, for all information.

d. IN SPAIN, OR SPANISH-SPEAKING LANDS.

1. *Holiday Course for Foreigners in Madrid.* The 1917 course is the sixth year and runs from July 17 to August 26. The fee is fifty pesetas. There are also "Courses of Three Months in the Spanish Language and Literature for Foreigners". The academic year consists of three terms of three months each. The registration fee is forty pesetas a month. For information regarding both the regular courses and the holiday course write to the Sr. Secretario de la Junta para Ampliación de Estudios, Moreto, 1, Madrid, or to Professor John D. Fitz-Gerald, University of Illinois.

Excursions to other parts of Spain are organized in connection with these courses.

2. "The International Institute for Girls in Spain", Calle Fortuny 21, Madrid, Spain, has a "Department for American Students". Address the Directora, Miss Susan D. Huntington. This department is designed for young women who are able, preferably, to spend at least a year in Spain. The charge for "Home and Tuition, including Spanish, French, German, history of art and literature of Spain" is \$500, and per month \$75. For day pupils these charges are respectively \$200 and \$30.

Descriptive circulars and further information may be obtained of Prof. J. D. Fitz-Gerald, University of Illinois, who is a member of the advisory council.

3. In Spanish-American lands there will be increasing opportunity for travel and study when the Panama trade routes are adjusted. On the table lands of Mexico the summer climate is preferable to that in Spain or other central American countries. It is to be hoped that peace may soon come to Mexico, so as to permit the resumption of travel and sojourn there. The best places are reputed to be Mexico City, Oaxaca and Guadalajara, all of which are over 5000 feet above the sea.

In Havana, if care be taken to secure a room facing the sea breeze, the climate is said to be as good as Madrid.

In the United States certain localities of Arizona, notably Nogales, and of Texas, notably El Paso, are not unendurable in the summer for a northerner.

The Illinois Central Railroad offers certain special inducements for travellers to Cuba.

4. Under the leadership of Ralph E. Towle, the Bureau of University Travel (Trinity Place, Boston, Mass.) planned a trip sailing from New York January 20, 1915, via Jamaica and Panama to Peru, Chile, across the Andes through Argentina to Buenos Aires, Montevideo, Santos, Sao Paulo, Rio de Janeiro, and points in the West Indies on the return journey. The trip ended in New York in the first week in April, and the total cost was about \$1275. This is evidence of similar trips that will undoubtedly be organized later.

5. "A Summer School of the Spanish Language" was conducted from June 27, 1915 to July 24, 1915 at "Casa Vieja", San Gabriel, California (near Los Angeles) in what is practically a Spanish-speaking community. The cost of this very attractive school was \$100, which included room, board and tuition.

Particulars regarding later years of this school may be secured by addressing Señorita María de Guadalupe E. López, San Gabriel, Cal.

6. The *Summer School of French and Spanish* at Springfield, Massachusetts, should be mentioned again here. See above under "b. In France or French-speaking lands," No. 9, Page 5.

B. BOOKS OF TRAVEL.

Teachers who have not yet themselves had an opportunity to travel should nevertheless become acquainted as far as possible with the cultural conditions of the several countries whose language and literature they desire to teach. The best way to do this is to read the books of travel which appear in increasing number each year. Illustrated books are of especial value in this connection. No attempt at completeness is made in the following lists. It is merely desired to suggest books that are standards, and through them to stimulate teachers to continue their reading in this direction. The publishers' lists of the leading American and European firms should be consulted for new material. A guide to careful selection is also the publication by Thomas Nelson & Sons known as "Standard Books, an annotated and classified guide to the best books in all departments of literature." This is a reference book bound in four volumes with a loose leaf method for additions.

a. FRANCE.

- Along French Byways*, written and illustrated by Clifton Johnson. The Macmillan Co. \$1.50.
- Home Life in France*, by Miss Betham-Edwards, officier de l'Instruction publique de France. A. C. McClurg. \$2.50.
- French Life in Town and Country*, by Hannah Lynch. Putnam's. \$1.25.
- A Week in a French Country House*, by A. Sartoris. The Macmillan Co. \$1.50.
- France: Historical and Romantic*, by Joel Cook. 50 illustrations. 2 vols. \$5. The John C. Winston Co., Philadelphia.
- A Little Tour in France*, by Henry James, with illustrations by Joseph Pennell. Houghton, Mifflin & Co. \$2.
- Through the French Provinces*, by E. S. Peixotto. Scribner's. \$2.50.
- Château and Country Life in France*, by M. R. Waddington. Scribner's \$2.50.
- Round my House. Notes of Rural Life in France in Peace and War (1870-1871)*, by Philip Gilbert Hamerton. Boston, Roberts Bros.
- French Traits*, an essay in comparative criticism, by W. C. Brownell. Published in the series "Chautauqua Reading Circle Literature". Secure through Charles Scribner's Sons. \$1.50.
- France Herself Again*, by Ernest Dimnet. G. P. Putnam's Sons, 1914. \$2.50. (Aims to compare the demoralized France of 1870 with the united France of today.)

- Cathedrals and Cloisters of France*, by E. W. Rose and V. H. Francis. Four parts; each part \$5 in two volumes contains over 200 illustrations. 1. *Northern France*. 2. *Isle de France*. 3. *Midland France*. 4. *Southern France*. New York (G. P. Putnam's Sons).
- La France géographique illustrée*, in two 4° vols., by P. Jousset. Nearly 2,000 photographic engravings, and 51 maps, of which 30 are colored. Published by the Librairie Larousse, Paris. The same house publishes similar volumes on Switzerland, Belgium, Spain and Portugal, Germany, and also a richly illustrated "Atlas Départemental" of France.
- Paris Atlas*, by Bournon. Paris (Larousse).
- France of the French*, by E. H. Barker, New York (Scribners') \$1.50.
- An American Student in France*, by Abbé Klein, McClurg.
- The France of Today*, by Barrett Wendell. Scribner's \$1.50.
- France Under the Republic*, by J. C. Bracq. \$1.50. Scribner's.
- La France au Travail*, by Cambon. 6 vols., each 4 francs. Paris (Roger).

NOTE: The number of excellent illustrated books on Paris is so large that it seemed wise not to extend this list by including them.

b. BELGIUM.

- Belgium, her Kings, Kingdoms and People*, by John de Courcy MacDonnell. London (J. Long). 1914.
- Belgium of the Belgians*, by Demetrius C. Boulger. London (I. Pitman) 1915. Secure through Scribners'. \$1.50.
- The Spell of Flanders*, by Edward Neville Vose. Boston (L. C. Page Co.) 1915. \$2.50.
- Belgium*, by H. Stokes, New York (F. A. Stokes). 1916. \$3.50. De luxe edition \$25.
- Fascination of Belgium*, by L. E. Walter. Macmillan. 1916. 50 cts.

c. SWITZERLAND.

- Les Vacances de Lundi*, by Théophile Gautier. Paris (Charpentier) 1907.
- Swiss Life in Town and Country*, by A. T. Story (Our European Neighbors Series). New York (Putnams). 1902. \$1.25 and \$2.25.
- The Spell of Switzerland*, by Nathan Haskell Dole. Illustrated from photographs and original paintings by Woldemar Ritter. Boston (L. C. Page Co.) 1913. \$2.50.
- Switzerland Through the Stereoscope*; a journey over and around the Alps, by Mabel Sarah Emery. New York and London (Underwood & Underwood) 1901. With bibliography pp. 24-26.
- Die Schweiz*, by J. C. Heer. (Land und Leute v. 5). Bielefeld & Leipzig (Velhagen & Klasing). 1902.
- The Alps in Nature and History*, by W. A. B. Coolidge. New York (E. P. Dutton) 1903.
- The Scenery of Switzerland and the Causes to which it is due*, by Sir John Lubbock. 5th edition. London (Macmillan) 1913.

- The Alps*, by Sir W. M. Conway and A. D. McCormick. London (A. & C. Black). 1904.
- The Building of the Alps*, by T. G. Bonney, New York (Scribner's). 1912.
- Hours of Exercise in the Alps*, by John Tyndall. 2nd edition. London (Longmans Green & Co.). 1871.
- Switzerland Picturesque and Descriptive*, by J. Cook. Philadelphia (Winston). 1904. \$3.
- Romance and Teutonic Switzerland*, by W. D. McCrackan. 2 vols.; various bindings. Boston (Page Co.). 1894.

d. GERMANY.

- Romantic Germany*, by R. H. Schauffler. Illustrated. New York. The Century Co. 1909. \$3.50.
- The Rhine from its Sources to the Sea*, by G. T. C. Bartley. 50 illustrations. 2 vols. \$5. The John C. Winston Co., Philadelphia.
- Home Life in Germany*, by Mrs. Alfred Sidgwick. Illustrated \$1.50; without illustrations 50 cts. Macmillan. 1908.
- German Thought*, by Hillebrand. New York (Holt). 1880.
- Travels in the North of Germany*, by Thomas Hodgskin. 2 vols. Edinburgh. 1820. (Interesting for its description of earlier conditions.)
- German Life and Manners as seen in Saxony, etc.*, by Henry Mayhew. London (W. H. Allen). 1864. 2 vols.
- Germany, Past and Present*, by S. Baring-Gould. London. 1879. Still of value as a study of past conditions.
- German Life in Town and Country*, by William H. Dawson. Putnam's, New York.
- Germany and the Germans*, by William H. Dawson. 2 vols. London (Chapman and Hall).
- In the Kaiser's Capital*, by J. F. Dickie. Dodd, Mead & Co. \$2.
- Munich, History, Monuments and Art*, by Henry R. Wadleigh. London (T. F. Unwin).
- Germany and the Germans from an American Point of View*, by Price Collier. New York (Scribners'). 1914. \$1.50. Vividly written.
- Municipal Life and Government in Germany*, by William H. Dawson. Second edition 1917. Longmans, Green & Co. \$2.50.
- Im deutschen Reich. Handbuch der deutschen Umgangssprache*, by Dr. O. Leopold. Freiburg, Baden (J. Bielefeld). 1910. 2.50 marks. Although avowedly a manual, this book contains a surprising amount of valuable cultural information.
- Das ältere deutsche Städtewesen und Bürgertum*, by Anton Hugo Georg von Below. Illustrated. Bielefeld & Leipzig. 1905.
- Des Deutschen Vaterland unter Mitwirkung hervorragender Schriftsteller*, by Hermann Müller-Bohn. 2 vols. Stuttgart (Ch. Belser), 1913. 40 mks. A sort of travelogue with pictures.
- Bunte Bilder aus dem Schlesierlande*, edited by the Schlesischer Pestalozzi Verein. 3rd edition. Breslau. 1903.
- Land und Leute. Monographien zur Erdkunde*. (Illustrated richly.) A

series selling at \$1.20 each, and comprising for Germany the following: Thüringen, Tirol, Oberbayern, Nordseeküste, Ostseeküste, Der Harz, Am Rhein, Schwarzwald, Berlin und die Mark, Dresden, etc., etc. Published at Bielefeld and Leipzig by Velhagen and Klasing.

- A similar illustrated series selling at 60 pff. per number are the "Volksbücher" published by Velhagen and Klasing, Bielefeld and Leipzig.
- Other titles, among them many dealing with German myths and legends, may be found in Carl Schlenker's *Bulletin for Teachers of German*. University of Minnesota. 1916. Pages 18-19.

e. SPAIN.

- Castilian Days*, by John Hay. Boston (Houghton, Mifflin) 1907.
- Spanish Highways and Byways*, by Katharine Lee Bates. Illustrated. New York (Macmillan) 1900. \$1.50.
- The Bible in Spain*, by George Borrow. New York (Putnam's) 1907.
- The Zincoli; or an account of the Gypsies in Spain*, by George Borrow. 2 vols. London (J. Murray) 1902.
- Rambles in Spain*, by John D. Fitz-Gerald. Numerous illustrations. \$3. New York (T. Y. Crowell) 1910.
- Old Court Life in Spain*, by Frances M. Elliot. 2 vols. 56 illustrations. \$5. New York (Putnam's).
- The Soul of Spain*, by Havelock Ellis. Boston (Houghton, Mifflin) 1908. \$2.
- Spanish Life in Town and Country*, by L. Higgin. New York (Putnam's).
- A Tramp in Spain from Andalusia to Andorra*, by Bart Kennedy. New York (Fred Warne) 1904. \$2.50.
- Spain and the Spaniards*, by Edmondo de Amicis. New York (Putnam's). \$2. The same in a two volume edition, translated by S. R. Yarnell. Philadelphia (Winston). \$5.
- The Cities of Spain*, by E. Hutton. London (Methuen). \$2.
- Quiet Days in Spain*, by Carl Bogue Luffmann. New York (E. P. Dutton) 1910. \$2.
- Familiar Spanish Travels*, by William Dean Howells. New York (Harpers) 1913. \$2.
- Cathedral Cities of Spain*, by W. W. Collins. Illustrated. New York (Dodd, Mead & Co.) 1909. \$3.50.
- Visiones de España: apuntes de un viajero argentino*, by Manuel Ugarte. Valencia (F. Sempere) 1903. 1 peseta.
- Other interesting books on Spain have been written by A. M. Huntington, Théophile Gautier, Leonard Williams, and C. W. Wood.

f. HISPANIC AMERICA.

One of the recent marked features in the development of our modern language departments is the extraordinary increase in the demand for Spanish and also for knowledge of those southern countries of the American continent where this language or Portuguese is spoken. Several publishing houses, notably Macmillan and Benj. H. Sanborn, are preparing extensive series of books dealing with the history, the language and the literature of our neighbors to the south. It is therefore increasingly essential for the teacher of Spanish to become acquainted with the history and the culture of Hispanic America. The following books are accordingly listed with this purpose in mind:

- Across South America*, by Hiram Bingham. New York (Houghton, Mifflin) 1911. \$3.50.
- South America: a Geography Reader*, by Isaiah Bowman. New York (Rand, McNally & Co.) 1915. 75 cts.
- Elementary Spanish-American Reader*, by Eduardo Bergé-Soler and Joel Hatheway. *The Hispanic Series*. Benj. H. Sanborn & Co. 1917. \$1.24. Contains much material of political and cultural interest.
- Through South American Southland*, by M. A. Zahm. New York (Appleton) 1916. \$2.50.
- Mexico, the Wonderland of the South*, by W. E. Carson. Macmillan 1914. \$2.50.
- Mexico; handbook for travellers*, by Thomas Philip Terry. With 2 maps and 25 plans. Boston (Houghton, Mifflin) 1909. \$2.50.
- The Panama Gateway*, by J. B. Bishop. Fully illustrated. New York (Scribner's). \$2.50.
- Latin America: its Rise and Progress*, by Francisco García Calderón, with a preface by Raymond Poincaré. New York (Scribner's) 1913. \$3.
- The South American Tour*, by Annie S. Peck. Fully illustrated, mainly from photographs by the author. New York (George H. Doran). \$2.50.
- A Search for the Apex of America*, by Annie S. Peck. New York (Dodd, Mead & Co.). \$3.50.
- La América del Sud*, por James Bryce, traducido al castellano por Guillermo Rivera. New York (Macmillan) 1914. \$2.50. This book has been successfully used by some teachers as an auxiliary reading text. When ordered thus for classes the price is \$2. The English original costs \$2.50 also.
- Peru*, by Reginald Enock. London (Fisher Unwin).
- Baedeker of the Argentine Republic, etc.*, by Alberto B. Martínez. D. Appleton & Co. 1915. \$3. (Also Barcelona 1914.)
- Brazil in 1913*, by J. C. Oakenfull. 604 pages. Printed by Butler & Tanner of Frome, England. 1914. 7 sh. 6 p. The Brazilian Government distributed some 11,500 copies of this thorough description of Brazil's history and resources. In the United States the distribution

took place through the Pan American Union of Washington, D. C.

Appendix III of this book is a very complete bibliography of Brazil.

—Charles Scribner's Sons have made quite a specialty of books descriptive of Latin-American countries. The list is too long for quotation here, and may be found in the catalogue of that firm.

—A book of value in this connection is *A Brief Bibliography of Books in English, Spanish, and Portuguese relating to the Republics commonly called Latin American, with comments*, by Peter H. Goldsmith. New York 1915 (The Macmillan Co.). XIX, 107. The critical comments will help in the choice of reading matter.

—Somewhat less extensive is the book *South America: Study Suggestions. Brief Outline with Bibliography*, by H. E. Bard. (D. C. Heath 1916).

—The *Pan American Union*, Washington, D. C., issues a monthly bulletin splendidly illustrated and devoted to the progress and development of the twenty-one republics of the two Americas. The bulletin is published in a French edition for 75 cts. yearly; in a Spanish edition for \$1.50; in a Portuguese edition for \$1.00, and in an English edition for \$2. There are also bi-lingual editions as follows: French and Spanish for \$2; French and Portuguese for \$1.75; French and English for \$2.50. An edition in four languages—English, French, Portuguese and Spanish—is also issued for \$4.

This magazine aims to create friendly relations throughout the two continents, and deserves wide circulation. No better means of acquiring knowledge of our sister republics could be found.

—Among other periodicals treating of Pan-American affairs are: "Pan-American Progress", Los Angeles, California (304 Wilcox Bldg.), and "Latin America" (in English and Spanish), New Orleans (502 Board of Trade Bldg.). Semi-monthly.

g. GENERAL SERIES.

—A remarkably beautiful series of books (with profuse illustrations colored from paintings made on the spot) is published by A. & C. Black of London. These volumes are in three series and were originally sold at from \$1.50 to \$5, according to size. They may now be obtained for half price of McDevitt-Wilson, Hudson-Terminal Building, New York City. The volumes of interest for French civilization are those on Brittany, Belgium, Bruges and West Flanders, Brabant and East Flanders, Normandy, Liège and the Ardennes, Montreux, Geneva, The Riviera, and Paris. Those on Spain are entitled Northern Spain and Southern Spain. One on Germany is entitled Nuremberg.

—The *National Geographical Magazine* published by the National Geographical Society, Hubbard Memorial Hall, Washington, D. C., often contains beautifully illustrated articles on European countries. Membership and subscription \$2 a year. Vol. XXVIII was 1916-1917.

—A book of value is John Scherer's *Europe illustrated. Its picturesque scenes and places of note*. London (no date). 2 vols.

—The Baedeker Guide Books contain a vast amount of valuable information especially in their introductory pages.

—*The Mediaeval Town Series*, by various authors. London (J. M. Dent). New York (E. P. Dutton) 1898-1912.

These dainty volumes are copiously illustrated, and contain valuable descriptive and historical matter. The following volumes are of interest to students of French, German, and Spanish: *Bruges, Brussels, Chartres, Nuremberg, Paris, Rouen, Seville, Toledo*. The prices are from 3 s. 6 d. in cloth to 5 s. 6 d. in leather.

—Not without value are such popular collections as the John L. Stoddard lectures on travel.

—*The Land und Leute. Monographien sur Erdkunde*, published at Bielefeld and Leipzig, Germany, by Velhagen and Klasing, should also be listed here. They are well illustrated, cover every European country and sell at \$1.20 each.

C. POLITICAL HISTORIES.

No one can well understand the cultural status of any people without a knowledge of its past political history, since the history and culture of a nation are intimately interwoven. Below are listed a few representative histories of Belgium, France, Switzerland, Germany, Spain and Hispanic America.

a. FRANCE.

—Adams, George Burton, *The Growth of the French Nation*. The Macmillan Co. \$1.25.

—Hassel, Arthur, *The French People*. D. Appleton & Co. \$1.50.

—Headlam, Cecil, *France*. Making of the Nations Series. With 32 full-page illustrations and 16 maps and smaller figures in the text. \$2. The Macmillan Co.

—Kitchin, G. W., *A History of France*. 3 vols. Oxford, Clarendon Press.

—Montgomery, David Henry, *The Leading Facts of French History*. \$1.12. Boston (Ginn & Co.) 1891.

—Rambaud, Alfred, *Histoire de la Civilisation française*. 2 vols. Paris (A. Colin). \$3.20.

—Guérard, Albert Léon, *French Civilization in the Nineteenth Century. A Historical Introduction*. New York. The Century Co. 1914. \$3.

—Lavissee and Parmentier, *Album Historique*. Paris (A. Colin). 4 vols., each \$4. Each volume contains from 1500 to 2000 illustrations, which are of great cultural interest.

—Guizot, Thiers, Martin, Taine, Michelet and Lavissee have written larger histories of France that should be in the reference list of all teachers of French.

b. BELGIUM.

- Boulger, Demetrius C., *Belgium of the Belgians*. New York (Scribner's) 1915. \$1.
- Ensor, R. C. K., *Belgium*. 250 pages with Bibliography. Home Library Series. New York (Henry Holt & Co.). 50 cents.
- Essen, Léon van der, *A Short History of Belgium*. University of Chicago Press 1916. \$1.
- Wilmotte, Maurice, *La Belgique—Morale et Politique*. 1830-1900. Paris (A. Colin) 1902. \$1.
- Rappoport, Angelo S., *Leopold the Second, King of the Belgians*. London (Hutchinson & Co.) 1910.

c. SWITZERLAND.

- Dändliker, Karl, *Short History of Switzerland*. Translated by E. Salisbury. London (Swan Sonnenschein); New York (Macmillan). 1899.
- Hug, Lina, and Stead, Richard, *The Story of Switzerland*. (Story of the Nations Series.) New York (Putnam's) 1893.
- Lloyd, Henry Demarest, *A Sovereign People; a Study of Swiss Democracy*. New York (Doubleday, Page & Co.) 1907.
- Winchester, Boyd, *Swiss Republic*. Philadelphia (J. B. Lippincott) 1891.
- McCrackan, W. D., *Rise of the Swiss Republic; a history*. 2nd edition. New York (Holt) 1901. \$2. Bibliography, pp. 405-416.

d. GERMANY.

- Bigelow, *History of the German Struggle for Liberty*. 4 vols. New York (Harper). First half of 19th century only.
- Schevill, Ferd., *The Making of Modern Germany*. Chicago (McClurg) 1916. \$1.25. Admirable.
- Dawson, Wm. H., *The Evolution of Modern Germany*. Scribner's. \$1.50.
- Francke, Kuno, *German Ideals of Today*. Boston and New York (Houghton, Mifflin).
- Henderson, Ernest F., *Short History of Germany*. Macmillan 1906. \$2.50. Excellent. Also in an enlarged edition in two volumes, 1916, \$3.50.
- Holland, A. W., *Germany*. "Making of the Nations" Series. With 32 full-page illustrations from photographs, etc. Also maps and plans in the text. Macmillan. \$2.
- Howard, Burt Estes, *The German Empire*. Macmillan 1913. \$2. Treating more especially the constitution and government before the great war.
- Menzel, Wolfgang, *The History of Germany*. Translated from the fourth German edition by Mrs. George Horrocks. In three vols., each \$1. The Macmillan Co.
- Müller, Wilhelm, *Political History of Recent Times with special reference to Germany (through 1880)*. New York (Harper). An excellent work.
- Priest, *Germany since 1740*. Boston (Ginn & Co.) 1914. \$1.25.

- Fife, Robt. H., Jr., *The German Empire Between Two Wars*. New York (Macmillan) 1916. \$1.50. Excellent study of the political and social development.
- Other histories have been written by Kohlrausch, Lewis, Bayard Taylor, and Sime. They may be obtained through McClurg & Co. of Chicago or other leading book dealers.
- Ranke, Treitschke and others have written histories of greater volume.

e. SPAIN.

- Altamira y Crevea, Rafael, *Historia de España y de la civilización española*. Barcelona 1909. 4 vols. 24 pesetas.
- Clarke, Henry Butler, *Modern Spain*. 1815-1898. Cambridge (England) University Press 1906. \$2.
- Hume, Martin A. S., *The Spanish People*. Appleton. \$1.50.
- Hume's edition of Burke's "History of Spain". 2 volumes.
- In sequence to Hume's edition of Burke's "History of Spain", Hume has written several other volumes treating of special periods. These are "Philip II of Spain", "Queens of Old Spain", "The Court of Philip IV", "Spain, Its Greatness and Decay 1479-1788", and "Modern Spain".
- Latimer, Elizabeth W., *Spain in the Nineteenth Century*. McClurg 1898. \$2.50.
- Salcedo Ruiz, Angel, *Historia de España. Resumen Crítico, é Historia Gráfica de la Civilización española*, por Manuel Angel y Alvarez. Copiously illustrated. Madrid (Calleja) 1916. \$3.

f. HISPANIC AMERICA.

- Mitre, Bartolomé, *The Emancipation of South America*, being a condensed translation by William Pilling of the *History of San Martín* by General Don Bartolomé Mitre. London (Chapman & Hall) 1893.
- Akers, Charles E., *A History of South America*. 1854-1904. New York (E. P. Dutton) 1904. \$4.
- Shepherd, William R., *Latin America*. New York (Holt) 1914. (Home University Library.) 50 cts. (Presents the historian's point of view.)
- Supple, Edward Watson, *Spanish Reader of South American History*. New York (Macmillan) 1917.
- García Calderón, Francisco. *Latin America; its rise and progress*, with a preface by Raymond Poincaré. New York (Scribner's) 1913. \$3.

D. METHODS OF TEACHING MODERN LANGUAGES.

a. GENERAL DISCUSSIONS APPLICABLE TO ALL MODERN LANGUAGES.

1. Historical, statistical and bibliographical: *The Teaching of Modern Languages in the United States*, by Charles Hart Handschin. U. S. Bureau of Education. Bulletin No. 13 of series for 1913 (whole number 510). Washington, Government Printing Office. 15 cents. This contains a good bibliography.

2. Carl A. Krause has brought down to date the above bibliography of Handschin, as far as American writers are concerned, in the following publications:

—For 1912-1913 in Vol. XV. and for 1914 in Vol. XVI, No. 8 of the *Monatshefte für deutsche Sprache und Pädagogik*. These two articles are reprinted in Dr. Krause's *The Direct Method in Modern Languages*, Charles Scribner's Sons 1916 (see 28 below).

—For 1915 the Bibliography has been published in Vol. I, No. 1 of the *Modern Language Journal*, in which publication Dr. Krause will, it is to be hoped, continue his valuable bibliographical contributions each succeeding year.

3. *Methods of Teaching Modern Languages*, D. C. Heath & Co. 1893. 72 cents. A series of papers by eminent American teachers, containing most valuable suggestions, although some of the methods advocated have since been superseded.

—In a 1915 edition of this book, the *Report of the Committee of the National Educational Association*, made in July, 1914, has been included, and three recent papers substituted for some of those in earlier editions. These changes have increased very materially the value of the book.

4. *Report of the Committee of Twelve of the Modern Language Association of America*. D. C. Heath & Co. 16 cts. A most useful summary of the best American experience at that time, containing also outlined model courses in French and German. Every teacher should own this little book, but teachers of German should use it with caution.

A standing committee of the National Educational Association, called the *National Commission on the Reorganization of Secondary Education, Modern Language Section*, has in preparation a national report on the teaching and curricula of modern languages. This report when ready will probably supplant the above *Report of the Committee of Twelve* by bringing the work of that Committee, excellent for its time, down to date.

5. *Report of the Joint Committee on Grammatical Nomenclature*. Appointed by the National Educational Association, the Modern Language Association of America, the American Philological Association. Published by the University of Chicago Press, 1914. New edition in preparation.

6. *The Teaching of Modern Foreign Languages and the Training of Teachers*, by Karl Breul. Cambridge, England, University Press (G. P. Put-

nam's Sons) 1909. This contains an excellent bibliography of great value to teachers, and also a critical chapter entitled *The Reference Library of a School Teacher of German*.

7. *The Teaching of Modern Languages*, by Leopold Bahlsen. Ginn & Co. Contains chapters on the history of the subject, also on aim and method with many helpful suggestions.

8. *De l'enseignement des langues vivantes. Conférences faites aux étudiants en lettres de la Sorbonne*, by Michel Bréal. Paris (Hachette) 1910.

9. François Gouin: *L'Art d'enseigner et d'étudier les langues*. Paris, published by Fischbacher. Also to be had in an English translation by Swan and Bétis. The title is *The Art of Teaching and Studying Languages*. (Scribner's) 1893. The importance of this Gouin method lies in the fact that the modern "Direct Method" is derived from it in large measure. The books based upon the Gouin method written by F. Thémoin, late principal of the Gouin Schools, London, are for sale by Brentano, Fifth Avenue & 27th St., New York City; also by A. C. McClurg, 218 So. Wabash Ave., Chicago. See also Handschin's book under "c. Methods of teaching German", No. 11.

10. *Die Methode Gouin oder das Serien-system*, by Dr. R. Kron. Marburg (N. G. Elwert) 1909. Purchasable in German, French and English.

11. *Practical Study of Languages; a Guide for Teachers and Learners*, by Henry Sweet. London 1899.

12. *How to Teach a Foreign Language*, by J. O. H. Jespersen. London 1904; New York (Macmillan) 1908. This is an essay on the application of the Reform Method.

13. *Method of Teaching Modern Languages in Germany*, being the report presented to the trustees of the Gilchrist Educational Trust on a visit to Germany in 1897, by Mary Brebner, Gilchrist travelling scholar. The Macmillan Co., 1904. 3rd edition 71 pages. 40 cts.

This book contains a particularly good bibliography of periodicals, theoretical works, official Prussian publications, phonetic literature, class books and the like.

14. Viëtor, Wilhelm, *Der Sprachunterricht muss umkehren*. Heilbronn (Henninger) 1885. 2 mks. This book had a marked influence, and was most influential in securing the introduction of the Direct or Reform Method.

15. Viëtor, Wilhelm, *Die Methodik des neusprachlichen Unterrichts. Ein geschichtlicher Ueberblick in vier Vorträgen*. Leipzig 1902. Mk. 1.

16. Thiergen, Oskar, *Methodik des neuphilologischen Unterrichts*. Dritte Auflage, Leipzig and Berlin (Teubner) 1914. 90 cents.

17. Walter, Dr. Max, *Die Reform des neusprachlichen Unterrichts auf Schule und Universität*. Marburg (N. G. Elwert) 1912. 75 Pf.

18. Walter, Dr. Max, *Zur Methodik des neusprachlichen Unterrichts*. Marburg (N. G. Elwert) 1912. Mk. 1.70.

19. Breymann-Steinmüller, *Neusprachliche Reform-Literatur*. Published about every four years with exhaustive bibliography and an interesting summary of the latest ideas and tendencies in modern language teaching. The fourth volume was issued in 1909. Leipzig (A. Deichert). 5.50 mks. All four vols. are sold for 14.75 mks.

20. Pinloche, A. *La Nouvelle Pédagogie des Langues Vivantes*. Paris (Didier) 1913.
21. Krause, Carl A. *The Trend of Modern Language Instruction in the United States*. (Educational Review, March 1913). *Why the Direct Method for a Modern Language*. (Educational Review, March 1916).
22. Kenngott, A. *Answers to Questions Concerning the Direct Method*. (Monatshefte für deutsche Sprache und Pädagogik. Vol. XVI. No. 1).
23. Krause, Carl A. *Ueber die Reformmethode in Amerika. Vier Vorträge während der Marburger Ferienkurse 1914. Mit einem Begleitwort von Max Walter*. Marburg in Hessen (Elwert'sche Buchhandlung) 1914. To be secured thru G. E. Stechert & Co., 151-155 West 25th St. or Charles Scribner's Sons, 597 Fifth Ave., New York City. 45 cents postpaid. These four lectures are entitled: "1. Einleitendes und lautliche Schulung; 2. Grammatischer Unterricht; 3. Lehrpläne und Prüfungen; 4. Amerikas Beitrag zur neu sprachlichen Methodik." Of these the second and third are particularly helpful.
24. Flagstad, Chr. B. *Psychologie der Sprachpädagogik*. Leipzig (Teubner) 1913.
25. Ackermann, Richard, *Das pädagogisch-didaktische Seminar für Neu-philologen*. Leipzig (G. Freytag) 1913.
26. Sallwürk, E. von, *Fünf Kapitel vom Erlernen fremder Sprachen*. Berlin (Gaertners Verlag) 1898. An interesting little book.
27. Zick, Henry, *The Teaching of Modern Languages in European Secondary Schools*. (Educational Review, Vol. 51, pp. 488-510, 1916).
28. Krause, Carl A., *The Direct Method in Modern Languages. Contributions to Methods and Didactics in Modern Languages*. Charles Scribner's Sons 1916. 75 cents. In this valuable symposium Dr. Krause has reprinted ten of his recent articles and papers, most of which have appeared in educational journals. Chapters IX and X contain the bibliography on methodology by American writers for the years 1912, 1913, 1914. Compare above under Nos. 1 and 2.
29. Monteser, F. *The Direct Method of Teaching Modern Languages and Present Conditions in our Schools*. American Book Co. 1910.
30. Wähmer, Richard, *Spracherlernung und sprachwissenschaft; die angliederung des sprachunterrichts in den wissenschaftlichen bildungsplan der höheren schule dargelegt am französischen*. Leipzig, etc. (B. G. Teubner) 1914. 98 p.
31. Bloomfield, L., *The Study of Language*. New York. (Holt) 1914. \$1.75. Discusses topics with which language teachers should be familiar.
32. Sütterlin, L., *Werden und Wesen der Sprache*. Leipzig (Quelle und Meyer) 1913. Cloth 85 cts.
33. An interesting article: *In Defense of Translation*, by Bayard Quincy Morgan, has just appeared in *The Modern Language Journal* for April, 1917.

b. METHODS OF TEACHING FRENCH.

1. In the monumental work edited by Dr. K. A. Baumeister: *Handbuch der Erziehungs- und Unterrichtslehre für höhere Schulen*, Vol. 3. First Half: *Didaktik und Methodik der Einzelnen Lehrfächer*, Chapter V on *Französisch* by Dr. Wilhelm Münch contains a vast amount of information in its 179 pages and in its bibliography brought down to 1902. Published in München by C. H. Beck. The chapter on *Englisch* by Dr. F. Glauning is also of value in this connection.

2. Rippmann, Walter, *Hints on Teaching French*, London 1904. 1s. 6d.

3. Walter, Dr. Max, *Der französische Klassenunterricht*. Marburg 1895.

4. Max Walter's *French Lessons. A Demonstration of the Direct Method in Elementary Teaching*. New York, 1911. Scribner's. This is the record of Professor Walter's work while Visiting Professor at the Teachers' College of Columbia University. It is an excellent exposition of the Direct Method.

5. Wendt, Otto, *Enzyklopädie des französischen Unterrichts*. Methodik und Hilfsmittel für Studierende und Lehrer der französischen Sprache, mit Rücksicht auf die Forderungen der Praxis. 452 pages. 3rd edition 1909. Hannover and Berlin (Carl Meyer).

6. Brunot, Ferdinand, *L'Enseignement de la langue française*. Paris (A. Colin) 1909.

7. Bouchendhomme, E., *De l'Enseignement du français*. Paris (A. Colin) 1912. 75 cents.

8. Brown, Rollo Walter, *How the French Boy Learns to Write. A Study in the Teaching of the Mother Tongue*. 260 p. Harvard University Press. Cambridge 1915. This book has valuable suggestions, many of which are applicable to the teaching of French to Americans.

9. Many valuable suggestions may be found in the *Compte Rendu du Congrès de Langue et Littérature française tenu au Collège de la ville de New York le 27-28 mars 1913*. This report was edited by the General Secretary of the Alliance Française, 200 Fifth Ave., New York City. A second congress, which like the first was under the auspices of the *Alliance Française*, took place at the Panama Exposition in San Francisco August 30-31, 1915. The report of this congress may also be obtained of the general Secretary of the Alliance Française. A third congress, whose report will eventually be published, was held May 25-26, 1917, at Chicago.

10. Teachers of French are urged to associate themselves with some local branch of the *Alliance Française*. Write Monsieur Louis Delamarre, Secrétaire Général, 200 Fifth Ave., New York City, for the latest annual report of this widespread organization which has branches in almost every larger city, and in nearly all larger university and college communities in the United States and Canada.

c. METHODS OF TEACHING GERMAN.

1. In Dr. K. A. Baumeister's great work, *Handbuch der Erziehungs- und Unterrichtslehre, etc.*, the chapter on *Deutsch* by Dr. Gustav Wendt (Vol. III Erste Hälfte Chapter VII) is of great value. Compare above under "b. 1. Methods of Teaching French."
2. Rippmann, Walter, *Hints on Teaching German*, London (Dent) 1899. 1s. 6d.
3. Bagster-Collins, Elijah W., *The Teaching of German in Secondary Schools*, Columbia University Press, New York, 1911. Very suggestive for the American teacher. With bibliography. \$1.50.
4. Evans, M. Blackmore, Ph. D., *The High School Course in German*. Third edition September 1912, revised by Charles M. Purin. Published by the University of Wisconsin. Price 10 cents. A most suggestive pamphlet.
5. Max Walter's *German Lessons. A Demonstration of the Direct Method in Elementary Teaching*. This is the record of Professor Walter's work while Visiting Professor at the Teachers' College of Columbia University in 1910-1911. New York, Scribner's, 1911.
6. In Karl Breul's *The teaching of modern foreign languages and the training of teachers* (see above under "a. General Discussions, etc.," No. 6) is an excellent chapter on "The reference library of a school teacher of German," in which the best material is critically surveyed.
7. Koller, Dr. Armin H., *Methods of Teaching Prose Composition*. In the February and March 1914 numbers of the *Monatshefte für deutsche Sprache und Pädagogik*. With a short bibliography of books of reference of value to German teachers.
8. Allen, P. S., *Hints on the Teaching of German Conversation*. 36 pp. 10 cts. Ginn & Co.
9. Viëtor, Wilhem, *Wie ist die Aussprache des Deutschen zu lehren?* 15 cts. Marburg 1906.
10. Viereck, *Zwei Jahrhunderte deutschen Unterrichts in den Vereinigten Staaten*. Braunschweig 1903.
11. Handschin, Charles H., *German Series for Beginners. Ninety Graded Lessons on the "Series Plan". An Easy Introduction to the Direct Method of Teaching*. Series Publishing Company, Oxford, Ohio, 1916. This plan is based upon the Gouin method of using series of mental images. Many excellent suggestions may be found here and in the accompanying "Class Room Manual". The lessons are in loose leaf form. Both lessons and manual will be sent to teachers for 25 cents. For pupils the series alone costs 50 cts.
12. Schlenker, Carl, *Bulletin for Teachers of German*. Bulletin of the University of Minnesota, August 1916. (Current Problems No. 8). 25 cts. For sale by the Librarian. This bulletin is well arranged and has many sensible and practical hints on method, pronunciation, the choice of reading, etc. Bibliographical lists accompany each section.
13. Prokosch, E., *The Teaching of German in Secondary Schools*. Bulletin of the University of Texas, 1915. No. 41. (July 20, 1915). Austin, Texas. 54 pp. The ten divisions of this pamphlet treat of Methods in General, The

Direct Method, Pronunciation, Speaking, Reading, Grammar, Written Work, The Course of Study, The Teacher, Lesson Sketches. The booklet abounds in practical suggestions. 10 cents.

14. Cutting-Münzinger, *The Teaching of German*. (In preparation 1917). Henry Holt & Co.

d. METHODS OF TEACHING SPANISH.

Special books and articles on the methodology of teaching Spanish are still lacking. Until this need has been filled the teacher must therefore study the general literature of language methodology and the treatises on the teaching of French and German, applying their principles to the special Spanish field. The forthcoming numbers of *The Modern Language Journal* promise several articles devoted to Spanish methodology.

Professor L. A. Wilkins is engaged on a book to be entitled *Spanish in the Junior High School. A Handbook of Methods*. This book will appear in the *Hispanic Series* of Benj. H. Sanborn in 1917 or early in 1918.

The new quarterly *Hispania* (see p. 32) will be devoted in large part to questions of the teaching of Spanish.

E. BOOKS ON PHONETICS AND OTHER AIDS TO CORRECT PRONUNCIATION.

a. GENERAL PHONETICS: BOOKS.

1. *Exposé des Principes de l'Association Phonétique Internationale*; also published in an English translation, *The Principles of the International Phonetic Association*. Published 1912 by the editors, Paul Passy, Bourg-la-Reine, France, and Daniel Jones, University College, Gower St., London, England. Price 10 cents. Obtainable also from The Languages Publishing Company, 143 West 47th St., New York City. This pamphlet contains a valuable list of books using the alphabet of the International Phonetic Association.

2. Althaus, L. H., *The Means of Training in Phonetics Available for Modern Language Teachers*. 25 cts. Published by the International Phonetic Association. See addresses under 1. above.

3. Sievers, E., *Grundsätze der Phonetik*. 5th edition. Leipzig 1901. 5 mks.

4. Viëtor, Wilhelm, *Elemente der Phonetik des Deutschen, Englischen und Französischen*. Leipzig (Reisland) 6th edition, 1915. 424 pp. Bound mks. 12.

5. Viëtor, Wilhelm, *Introduction to English, French and German Phonetics, with reading lessons and exercises*. Translated by Laura Soames. 1908.

6. Viëtor, Wilhelm, *Kleine Phonetik des Deutschen, Englischen und Französischen*. 10th edition. Leipzig, 1915. Bound mks. 3.10. Translated by Walter Rippmann as *Elements of Phonetics*. London 1907. Dent & Co.

7. Zünd-Burguet, Adolphe, *La Phonétique expérimentale appliquée à l'enseignement des langues vivantes*. Paris (Alliance Française, 45 rue de Grenelle). Also *Défauts de prononciation et anomalies de dentition*, and *Génération des défauts de prononciation*. Paris (Gymnase de la voix, 48 rue de Grenelle).

8. Bigelow, John, Jr., *Modern Language Teaching with especial reference*

to pronunciation and conversation, reprinted from the Massachusetts Institute of Technology Quarterly, Vol. XIX, No. 1, March, 1906. Boston, Mass.

9. Armfield, G. Noël, *General Phonetics for Missionaries and Students of Languages*. 142 pages. Illustrated. Cambridge (England) 1915.

b. GENERAL PHONETICS: CHARTS, ETC.

1. Rausch's *Lauttafeln für den Sprachunterricht*. Marburg (N. G. Elwert). Series I for German, 20 large charts on cardboard, 30 mks. Series II, 6 Supplementary charts for French and English, 13.50 mks. Both Series 40 mks. There is an edition in postcard size of these useful charts, 2 mks only.

2. Zünd-Burguet, Adolphe, *The Organs of Speech*. A wall chromolithograph 60 x 90 centimetres with accompanying booklet in German, French and English. 5 mks.; on linen with rods 7 mks. Marburg (Elwert).

3. In the Frohse series of colored physiological charts plate No. 15 (Median section through head and neck), 36 x 50 inches, is of value in showing distinctly the organs of speech. Secure from A. J. Nystrom, 623 S. Wabash Ave., Chicago.

4. F. Rausch and D. Jones, *Sound Charts*. A set of nine charts showing the positions of the organs of speech in pronouncing the principal vowels. London (Dent). 12s. 6d. the set.

5. W. Scholle, *Coloured Wall Charts of English, French and German Sounds*. London (Blackie) 2s. each; on linen 4s. 6d. each.

6. *Chart of the Organs of Speech. Chart of the Universal Alfagam*. Both by Robert Morris Pierce, editor of the "Ideophonic Texts for acquiring Languages". Size of each chart 24½ x 15½ inches. Price each, paper 37 cents; mounted on cloth and rollers \$1 postpaid. The Languages Publishing Co., 143 West 47th Street, New York City.

7. Typewriters containing the alphabet of the International Phonetic Association are supplied by the Ideal Typewriter Co. (115a Queen Victoria St., London, E. C. England). One machine costing £ 13. 13. 0., contains (in addition to the ordinary letters) the phonetic types required for the ordinary transcription of English, French and German. A larger machine costing £ 27. 10. 0., contains all the symbols of the Association. It would be highly desirable for some American house to manufacture a machine for less money. Robert Morris Pierce has been negotiating with the makers of the Hammond Typewriter with reference to the manufacture of a special shuttle for the new alphabet.

c. FRENCH PHONETICS: BOOKS.

1. Martinon, Ph., *Comment on prononce le français; Traité complet de prononciation pratique avec les noms propres et les mots étrangers*. Paris (Larousse). Copyright 1913. \$1. 414 p. A most complete treatise, well planned and with index of words.

2. Geddes, James, *French Pronunciation. Principles and Practice, and a summary of usage in writing and printing*. Oxford University Press, American Branch, 35 W. 32nd St., New York City. 1913. (Preceded by a bibliography of the subject critically surveyed.)

3. Rousselot et Laclotte, *Précis de la prononciation française*. Illustrated. Paris (H. Welter) 1903.
4. Cauvet, Alfred, *La Prononciation Française et la Diction*. Paris (Paul Ollendorff).
5. Nyrop, Kr. *Manuel Phonétique du français parlé*. 2nd edition revised by Emmanuel Philipot. Copenhagen, Leipzig, Paris 1902.
6. Dumville, Benjamin, *Elements of French Pronunciation and Diction*. (Dent's Modern Language Series). 75 cts. New York 1914. (E. P. Dutton & Co.). This is truly an admirable book explaining phonetic phenomena simply and effectively. The examples and drill exercises are well chosen.
7. Cerf, Barry, *The Essentials of French Pronunciation*. Henry Holt, 1915. 25 cents. This is a very compact and practical little manual.
8. Matzke, John E., *A Primer of French Pronunciation*. Henry Holt & Co. 25 cents.
9. Churchman, P. H., *An Introduction to the Pronunciation of French*. W. R. Jenkins Co., 851 Sixth Ave., New York.
10. Tuckerman, Julius, *Simplicité, a Reader of French Pronunciation*. American Book Co. (With many valuable features of use to the teacher.)
11. Kuhn, Maurice N., *Elements of Spoken French*. American Book Co.
12. Zünd-Burguet, Adolphe, *Exercices pratiques et méthodiques de prononciation française, spécialement arrangés pour les études pratiques aux universités et les cours de vacances*. Marburg (Elwert) 1906. 60 cents.
13. Zünd-Burguet, Adolphe, *Méthode pratique, physiologique et comparée de Prononciation Française*, together with a *Livret d'illustrations*. 1902. Paris (Gymnase de la voix) 48 rue de Rome; Geneve (H. Zundig, 11 Corratierie) & Marburg (N. G. Elwert). 60 cents.
14. Passy, Paul, *Les Sons du français*. Paris (Didier) seventh edition 1912. 1 fr. 50.
15. Passy, Paul, *Abrégé de prononciation française*. Leipzig, 1901.
16. Passy, Paul, *The Sounds of the French Language: their formation, combination, and representation*. Translated by D. L. Savory and D. Jones. pp. 134, with two separate plates. 60 cts. The Oxford University Press, 1907.
17. Franke, Fel., *Phrases de tous les jours. Dialogues journaliers avec transcription phonétique*. 10th ed. Leipzig (Reisland) 1912. Boards 1 mark.
18. Michaelis et Passy, *Dictionnaire phonétique de la langue française*, 10th edition, Hannover and Berlin (Carl Meyer) 1914. Bound 6 marks. For pronunciation only. Every teacher should own it.
19. Knowles and Favard, *Perfect French Possible, Some Essential and Adequate Helps to French Pronunciation and Rhythm*. D. C. Heath & Co. 1916. To teachers 35 cents.
20. Jean Passy et Ad. Rambeau, *Chrestomathie française*. Leipzig and Berlin (B. G. Teubner). 3rd edition 1908. 250 pp. \$1.25. The phonetic transcriptions afford excellent practice.
21. Richards, S. A., *Phonetic French Reader*, New York (E. P. Dutton & Co.) 45 cts. In ordinary spelling and phonetic text. Very useful for acquiring familiarity with phonetic transcription.

22. Ballard and Tilly, *Phonetic French Reader*. Charles Scribner's Sons, 1916.

23. Villemain, Emile, *Méthode naturelle de prononciation française et de phonétique pratique à l'usage des étrangers*. Paris (Larousse) 75 cents.

24. Coleman, Algernon, *Practical Phonetics in Junior College French*, in the February and March 1917 numbers of *The Modern Language Journal*. This is a valuable and stimulating exposition of the method used by Professor Coleman to teach French pronunciation to elementary classes in the University of Chicago.

d. FRENCH PHONETICS: CHARTS.

1. *The Chart of French Sounds. Tableau des Sons Français (Système Viëtor)*, 3 feet x 4 feet 3 inches. Mounted on linen \$1. Reproduction of the same chart in small size for pupils, 5 cents. Also the explanatory and descriptive pamphlet to the chart in English, German and French text. Published by N. G. Elwert, Marburg, Germany, 1902.

2. Rippmann, W., *Les Sons du Français*. London (Dent). A sound-chart. Paper 1 shilling; mounted with rollers 2s. 6d.

3. Jones, D., *Les Sons du Français*. Cambridge (England) University Press. A sound-chart. Paper 1s. 6d; mounted with rollers 3s.

4. Arthur G. Bovée, of the University High School, Chicago, has issued a very useful little chart of the French vowel and consonant sounds which can readily be pasted into any grammar and used as a valuable aid in pronunciation drill. Mr. Bovée has had much success in the use of phonetics and the Direct Method.

5. See also above page 23 under "b. General Phonetics: Charts."

e. GERMAN PHONETICS: BOOKS.

1. Viëtor, Wilhelm, *Die Aussprache des Schriftdeutschen*. Leipzig (Reisland). 9th edition in 1914. Mks. 2.20. With the official *Regeln für die deutsche Rechtschreibung* and some texts in phonetic transcription. For teachers who cannot afford Viëtor's *Deutsches Aussprachewörterbuch*.

2. Viëtor, Wilhelm, *German Pronunciation*, 5th edition enlarged. Leipzig, 1914. Mks. 2.50. (With specimens).

3. Viëtor, Wilhelm, *Deutsches Aussprachewörterbuch*. 470 pp. Leipzig (Reisland) 2nd edit. 1915. (A very useful book.) Cloth mks. 13.50.

4. Viëtor, Wilhelm, *Wie ist die Aussprache des Deutschen zu lehren?* Marburg, 1906. 15 cts.

5. Viëtor, Wilhelm, *Deutsches Lesebuch in Lautschrift*. Leipzig (Teubner). 5th ed. 1914. Mks. 3.

6. Viëtor, Wilhelm, *Kleines Lesebuch in Lautschrift*, Leipzig (Teubner) 1912. 80 pff.

7. Curme, Geo. O., *Best German Pronunciation*, in Vol. IX *Journal of English and Germanic Philology*.

8. Hempl, George, *German Orthography and Phonology*. Ginn & Co. 1897. \$2.

9. Grandgent C. H., *German and English Sounds*. 50 cts. Ginn & Co.

10. Sütterlin, L., *Die Lehre von der Lautbildung*. Leipzig (Quelle Meyer) 1908. Cloth, mk. 1.25.
11. Prokosch, Eduard, *Sounds and History of the German Language*. New York (Holt) 1916. \$1.75.
12. Hermann, Karl, *Technik des Sprechens*. Frankfurt am Main 1912. M 4.50.
13. Oberländer, Heinrich, *Uebungen zum Erlernen einer dialektfreien Aussprache*. München. 8th ed. 1910. Mks. 3.60.
14. Siebs, Theo., *Deutsche Bühnenaussprache*. Eleventh edition. Berlin 1912. 70 cents. (Important.)
15. Meyer, E. A., *Deutsche Gespräche mit phonetischer Einleitung und Umschrift*. Leipzig (Reisland). Bound mks. 1.80. (Similar to Frank "Phrases de tous les jours". See "c 17" above.)
16. Michaelis, H., *Abriss der deutschen Lautkunde*. Leipzig (Habeland) 1906. 31 pp. 1 mk. Serves also as an introduction to phonetic transcription.

f. GERMAN PHONETICS: CHARTS.

1. *The Chart of German Sounds, 'Deutsche Lauttafel'* (System Viëto 3 feet x 4 feet 3 inches. Mounted on linen \$1. Reproductions in small size for pupils, 5 cts. Also the explanatory and descriptive pamphlet to the chart in English, German and French text. Published by N. G. Elwert, Marburg Germany.
2. See also above, page 26: "b. General Phonetics: Charts."

g. SPANISH PHONETICS.

1. Josselyn, F. M., *Études de Phonétique Espagnole*. Paris (H. Welt) 1907. With diagrams based upon actual experiments.
2. Araujo, F., *Fonética kastelana*. Santiago de Chile 1894.
3. Araujo, F., *Estudios de fonética castellana*. Toledo 1894.

F. HISTORIES OF LITERATURE.

a. FRANCE.

- Abry, Audic and Crouzet, *Histoire illustrée de la littérature française. Précis méthodique*. 324 illustrations. 664 pages. 5 francs. Paris (H. Didier) 1912.
- Dowden, Edward, *French Literature*. D. Appleton & Co. \$1.50.
- Wright, C. H. C., *A History of French Literature*. Oxford University Press, American Branch. \$3.
- Lanson, Gustave, *Histoire de la littérature française*. Paris (Hachette) 5 francs. 12th edition 1912.
- Suchier and Birch-Hirschfeld, *Geschichte der französischen Literatur*. 2 vols. Richly illustrated. \$5. Leipzig und Wien (Bibliographisches Institut).
- Histoire de la Langue et de la Littérature française des origines à 19*

- publiée sous la direction de L. Petit de Julleville. 8 vols. Illustrated. Paris (Armand Colin) 1896-1899.
- Claretie, Léo, *Histoire de la Littérature Française*. (900-1910). Five vols. Paris (Société d'éditions littéraires et artistiques) 1905-1912.
 - Herriot, Edouard, *Précis de l'histoire des lettres françaises*. Paris (Cornély) 1905. 4.50 francs.
 - Des Granges, Charles Marc, *Histoire de la littérature française*. 12th edition. Paris (A. Hatier) 1914. 3.50 francs.
 - Konta, Annie Lemp, *The History of French Literature*. New York and London (D. Appleton) 1910.
 - Vianey, Joseph, *L'Explication Française*. Vol. I: Le théâtre classique. Vol. II: Fables de La Fontaine; Orateurs et Moralistes du XVIIe siècle. Paris (A. Hatier) 1912.
 - Junker, Dr. Heinrich P., *Grundriss der Geschichte der französischen Literatur*. Münster i. W. 1909. 8.40 mks.
 - There are also good histories of French Literature by Henri Van Laun (Putnam's), and G. Saintsbury (Clarendon Press, Oxford). Many others by French writers, Brunetière, Doumic, Faguet, Pellissier, etc., are excellent.

b. BELGIUM.

- Gourmont, Rémy de, *La Belgique Littéraire*. Paris (Georges Cres et Cie) 1915. \$1. A brief survey and study.
- Rossel, Virgile, *Histoire de la littérature française hors de France*. Lausanne 1895. 2nd edition Paris 1897.
- Bithell, Jethro, *Contemporary Belgian Literature*. New York (Stokes) 1916.
- Bithell, Jethro, *Contemporary Belgian Poetry*. London (Walter Scott) 1911. Contains selections of Belgian poetry in French with English translation. The same author has in preparation with the same publisher: *Contemporary Flemish Poetry*.

c. SWITZERLAND.

- Rossel, Virgile, *Histoire de la littérature française hors de France*. Lausanne 1895. 2nd edition Paris 1897.
- Baechtold, Jakob, *Geschichte der deutschen Literatur in der Schweiz*. Frauenfeld 1892.
- Reynold, Gonzague de, *Histoire littéraire de la Suisse au XVIIIe siècle* 2 vols. Lausanne (G. Bridel) 1909-1912. The second volume is entitled: *Bodmer et l'école suisse*.
- Renard, Georges, *L'Influence de la Suisse française sur la France*. Lausanne 1892.
- Godet, Philippe, *Histoire littéraire de la Suisse française*. 1st edition 1889. 2nd edition, enlarged, 1894. Paris (Fischbacher).
- Ressel, Virgile, *Histoire littéraire de la Suisse romande des origines à nos jours*. 1st edition in 2 vols. 15 francs. 1889-1890. Paris (Fischbacher). 2nd edition in one volume, with 400 engravings and 100

plates (crowned by the French Academy). 20 francs. Neuchâtel (F. Kahn) 1904.

- Rossel, Virgile, *Histoire de la littérature Suisse des origines à nos jours*. 2 vols. 7 francs. Lausanne (Payot); Berne (Francke); Paris (Fischbacher) 1910-1911.

d. GERMANY.

- Thomas, Calvin, *German Literature*. D. Appleton & Co. 1909.
- Robertson, John G., (1) *History of German Literature*. New York (Putnam's) 1908. (A good but rather detailed history for high school students, excellent for reference.) \$3.50.
- (2) *Outlines of the History of German Literature*. New York (Putnam's) 1911. \$1.35. (A very excellent brief history.)
- (3) *The Literature of Germany* (In Home University Library). New York (Holt). .50 cts. (Briefer than the above.)
- Francke, Kuno, *History of German Literature as determined by social forces*. Being the fourth edition, enlarged, of the author's *Social Forces in German Literature*. Holt 1907. \$2.50. Clear and interesting. Highly praised.
- Biese, *Deutsche Literaturgeschichte*. Munich (Beck) 1907. 3 vols. Mk 16.50. Excellent (not illustrated). Treats 19th century.
- Gottschall, Rudolph von, *Deutsche Nationalliteratur des 19ten Jahrhunderts*. Breslau (Trewendt). Four-volume edition 1891; two-volume edition 1901.
- Brandes, Georg, *Die Hauptströmungen der Literatur des 19ten Jahrhunderts* (from the Danish). 2 vols. 6th ed., Leipzig 1899. An English version, *Main Currents in 19th Century Literature*, appeared London 1901-05. Here the position of German literature in that of the world during this period is clearly set forth.
- Taylor, Bayard, *Studies in German Literature*. Edited by M. Taylor. New York 1902 (Putnam's). \$2.
- Boyesen, H. H., *Essays on German Literature*. New York (Scribner's) \$1.50.
- Francke, Kuno, *German Ideals of Today and Other Essays on German Culture*. Houghton, Mifflin & Co. 1907. \$1.50.
- Hosmer, James K., *A Short History of German Literature*. Revised edition. New York (Scribner's) 1906. \$2.
- Priest, George M., *Brief History of German Literature*. New York (Scribner's) 1909. \$1.50. Based on G. Klee's *Grundzüge der deutschen Literaturgeschichte*.
- Bartels, *Geschichte der deutschen Literatur*. 2 vols. Leipzig.
- Koch, Max, *Geschichte der deutschen Literatur*. No. 31 in the excellent Sammlung Götschen, Stuttgart. 25 cts.
- Klee, G., *Grundzüge der deutschen Literaturgeschichte*. Secure through G. E. Stechert, 155 West 25th St., New York. (Short and good.)
- Scherer, Wilhelm, *Geschichte der deutschen Literatur*. Berlin (Weid-

- mann). 10 mks. An English translation, in 2 vols., by F. C. Conybear, Oxford, England (Clarendon Press).
- Vogt und Koch, *Deutsche Literaturgeschichte*. Leipzig und Wien, Bibliographisches Institut. (Illustrated.) 2 vols. 3rd enlarged edition 1910. 20 mks. (Best work for general reference or advanced study).
- Vögtlin, Adolf, *Geschichte der deutschen Dichtung*. Zurich (Schulthess & Co.). 2nd edition 1913. Bound 3 mks. (One of the best short histories.)
- Kummer, Fr., *Deutsche Literaturgeschichte des 19. Jahrhunderts*. Dresden (Karl Reissner) 1911. Bound 12 mks. (A valuable new work.)
- Meyer, Richard M., *Die deutsche Literatur des 19. Jahrhunderts*. Berlin (G. Bondi). Volksausgabe 1912. Bound 5.50 mks.
- Soergel, Albert, *Dichtung und Dichter der Zeit*. Leipzig (Voigtländer) 1911. Bound mks. 12.50. (The new writers. Illustrated).
- Krüger, H. A., *Deutsches Literatur-Lexikon. Biographisches und Bibliographisches Handbuch mit Motivenübersichten und Quellennachweisen*. Munich (O. Beck) 1914. Bound 7.50 mks. (Valuable for reference.)

e. SPAIN.

- Fitzmaurice-Kelly, James, *Spanish Literature*. New York (D. Appleton & Co.). \$1.50.
- The same author has written a similar history in French (Paris, A. Colin, 1913), five francs, with a bibliography in separate volume for which the price is two francs. Also a like work in Spanish (Madrid 1913), eight pesetas, the bibliography forming part of the volume. Both these works differ from the English work, the whole subject having been reworked, rewritten and brought down to date.
- Clarke, H. Butler, *Spanish Literature*. Macmillan 1893.
- Ticknor, George, *History of Spanish Literature*. Three volumes. Houghton, Mifflin & Co.
- Salcedo Ruiz, Angel, *La Literatura Española. Resumen de Historia Critica*. Profusely illustrated. In process of publication. Vol. III *El Clasicismo* appeared 1916. Vol. IV is being prepared. Madrid (Calleja).

f. HISPANIC AMERICA.

- Coester, Alfred, *The Literary History of Spanish America*. \$2.50 Macmillan 1916.

G. JOURNALS FOR THE TEACHER.

a. GENERAL.

—The *Modern Language Journal*, dealing specifically with pedagogical aspects, has just begun publication and deserves the support of all progressive teachers. The subscription price of \$1.50 per year includes also membership in the newly-formed "Association of Modern Foreign Language Teachers of the Central West and South", which holds annual meetings in April. Address the Secretary, Professor C. H. Handschin, Oxford, Ohio. A similar society in the east is "The Federation of Modern Language Teachers", which cooperates with the western association in the above journal.

This journal is destined to become invaluable to the modern language teacher. 1916-1917 will be volume I. There are to be eight numbers a year.

—*Modern Language Teaching*, the Official Organ of the Modern Language Assoc. of England, edited by Walter Rippmann, London. Eight numbers yearly. The 1916 volume was Vol. 12.

—*The Modern Language Review*, edited by John G. Robertson and others. Cambridge, England, University Press.

—*Modern Language Notes*. Baltimore, the Johns Hopkins Press. Eight numbers a year. The 1916 vol. was Vol. XXXI. \$2 yearly. Contains articles and reviews of value.

—*Modern Philology*. Monthly. University of Chicago Press. John M. Manly, managing editor. This periodical now appears in four sections: English; German; Romance; General. The subscription price for all four sections is \$5 per year, and for any two sections \$2.50 per year.

—Teachers are urged to join the *Modern Language Association of America* and thus receive its important "Publications". The dues are \$3 yearly and the Association holds annual meetings during the Christmas Holidays at some university centre in the east and another in the middle west. Every four years there is a joint meeting of the two sections of the Association. The "Publications" contain original articles of great value to the progressive teacher. The secretary of the Association is Prof. W. G. Howard of Harvard University.

—*Die Neueren Sprachen*. Marburg in Hessen (N. G. Elwert). Edited by Wilhelm Viëtor and others. Monthly.

—*Literaturblatt für Germanische und Romanische Philologie*. Edited by O. Behagel and F. Neumann. Contains valuable reviews and lists of new books. Monthly. Leipzig (Reisland). \$4.

—*Literarisches Zentralblatt für Deutschland*. Weekly.

—*The School Review*. University of Chicago Press. \$1.50. Has much of interest to a teacher of languages.

—*Le Maître Phonétique*, Organe de l'Association Phonétique Internationale. Published by Paul Passy at Bourg-la-Reine, near Paris, France. This is of especial value to those who make use of phonetic methods.

- in pronunciation. Subscription to *Le Maître Phonétique* includes membership in the International Phonetic Association (active \$1.20; associate 70 cents). Apply to Robert Morris Pierce, Local Secretary for America, 143 West 47th Street, New York City.
- Revue de L'Enseignement des Langues Vivantes*. Edited by H. Loiseau and G. Camerlynck. Monthly. Paris (Didier). 15 francs a year.
 - Germanisch-Romanische Monatsschrift*. Heidelberg. (Carl Winter, Universitäts-Buchhandlung). 6 marks a year (in America 7 marks). Contains valuable articles not over-technical and announcements of new books.
 - Archiv für das Studium der neueren Sprachen und Literaturen*. (Articles, reviews and announcements.) Quarterly. Braunschweig (Westermann). \$5.
 - Neusprachliche Reform-Literatur*, published by Breymann-Steinmüller. Leipzig (A. Deichert). This appears about once every four years. It contains a vast amount of information regarding new methods and new books. The fourth volume was issued in 1909.

There are many other reviews of current French, German and Spanish literature and philology which concern more especially the specialist. We include some of these in the following lists:

b. FRENCH.

- Revue des Deux Mondes*.
- Revue de Paris*.
- The *Revue des Cours et Conférences* appears the 5th and 20th of each month from December to August, and gives a summary of the most important courses given at the French universities. There are also other lectures given in extenso, as well as announcements of all university activities in France. 23 francs a year. Paris (Société Française d'Imprimerie et de Librairie), 15 rue de Cluny.
- Revue d'histoire littéraire de la France*. A quarterly devoted to original articles on the history of French literature, also with reviews and bibliography. Paris.
- Zeitschrift für französische Sprache und Literatur*. With original articles, reviews and bibliographies. Edited by Dr. D. Behrens.
- Journal des Instituteurs*, published weekly. Edited by A. Seignette. Paris.
- Bulletin officiel de la Société Nationale des Professeurs français en Amérique*. Published at 153 East 88th St., New York City.

c. GERMAN.

- Zeitschrift für den deutschen Unterricht*. Monthly. Leipzig (B. G. Teubner). \$5.
- Der Deutsche Kulturträger*, Monatschrift für die Kulturarbeit des Germanentums deutscher Zunge, \$2. yearly. Published at 170 W. Adams St., Chicago. Seems to have suspended publication.
- Monatshefte für deutsche Sprache und Pädagogik*. Herausgegeben von Nationalen Deutschamerikanischen Lehrerseminar, 558-568 Broadway Milwaukee, Wisconsin. A Monthly. \$1.50 a year.
- Euphorion*. Quarterly. For history of German literature. Vienna (Fromme). \$5.
- Zeitschrift für deutsches Altertum*. Quarterly. Berlin (Weidmann) \$6.50.
- Journal of English and Germanic Philology*. Published at the University of Illinois. Quarterly.

d. SPANISH.

- Hispania*, a new quarterly pedagogical journal, will begin publication February, 1918. The \$2 subscription will include membership in the recently-formed *American Association of Teachers of Spanish*. Address the Secretary, Dr. Alfred Coester, 1081 Park Place, Brooklyn, N. Y.
- Revista de Archivos, Bibliotecas y Museos*. First Series (eight volumes) 1871-1878; Second Series (one volume) 1883; Third Series 1897 to date. Published in Madrid.
- Revue Hispanique*. Since 1894. \$4. Published in Paris and New York 1905 to 1913 inclusive two volumes; since 1914 three volumes annually \$4. Published in Paris and New York.
- Revista de filología española*. A quarterly. Since 1914. Occasional contains articles on Spanish phonetics. Madrid.
- La Lectura*. A Monthly. Since 1901. Madrid.
- Bulletin Hispanique*. Since 1899. \$2.40 a year. Published in Bordeaux.
- Boletín de la Real Academia Española*. Since 1914. Madrid, 12 pesetas.
- Revista de Filosofía. Cultura—Ciencias—Educación*. Since 1915. Buenos Aires. \$5.

H. DICTIONARIES.

a. FRENCH.

1. Gasc, F. E. A. *French-English and English-French Dictionary*. 1913. three sizes; concise at \$1.25; students' at \$1.50; library at \$4. Henry Holt & Co.
2. Pierce, Robert Morris, *International French-English and English-French Dictionary*. Hinds, Noble and Eldredge, Union Sq. New York. \$1.50. Valuable preface on pronunciation. This dictionary indicates the pronunciation throughout by the symbols of the International Phonetic Association. Mr. Pierce had the aid of Paul Passy and George Hemphill as "editorial critics" of French and English pronunciations respectively.

3. James-Molé, *French and English Dictionary*. Macmillan Co. \$1.50.
The 1916 edition is a photographic reproduction in which the print is less distinct than in former editions.
4. Collot, A. S., *French-English and English-French Dictionary*. \$1.50.
The W. R. Jenkins Co., New York, Sixth Ave. at 48th St.
5. Bellows, John, *French and English Dictionary*. Thoroughly revised and enlarged by William Bellows with the assistance of Auguste Marrot and Gustave Friteau. Henry Holt. 1911. \$1.50. This well-known dictionary has many practical features: both parts French-English, English-French run concurrently on the same page; feminine words are in italics; *liaisons* are indicated, etc. The same features are in the earlier pocket edition which is more expensively bound (\$2.55 and \$3.10) and is also published by Holt.
6. Clifton and Grimaux, *A new Dictionary of the French and English Languages*. Two vols. Paris (Garnier and Hachette). This is an excellent moderate-priced book, and either volume may be had separately.
7. Fleming and Tibbins, *Royal Dictionary English and French*, etc. In two heavy quarto volumes, to be had separately. This is, in the opinion of most critics, the best English and French dictionary, despite the fact that it is not a modern book. It is expensive, but should be in every well equipped school library. Published by Firmin-Didot, Paris.
8. Heath's *French Dictionary*. \$1.50. D. C. Heath. The same as Cassel's *French Dictionary*.
- 8a. Spiers and Surenné's *French and English Pronouncing Dictionary*. French-English 666 pages. English-French 651 pages. 8vo. Revised by G. P. Quackenbos. New York. D. Appleton & Co. 1852. \$5.50. While in need of revision this is still a good work. The same may be said of its *School Edition* sold at \$1.50.

ALL-FRENCH DICTIONARIES

9. Of the all-French dictionaries one of the most useful is the *Petit Larousse Illustré*. Published by Larousse in Paris. Cloth \$1.25, leather \$1.75.
10. Darmesteter-Hatzfeld-Thomas, *Dictionnaire Général de la langue française du commencement du xviii^e siècle jusqu'à nos jours précédé d'un Traité de la formation de la langue*, etc. Paris. Two volumes. Ch. Delagrave. This is the standard all-French dictionary since Littré's work in four volumes and a supplement. Littré's dictionary should, however, be bought also for the school library as soon as possible.
11. Stappers, Henri, *Dictionnaire Synoptique d' Etymologie Française*. Paris (Librairie Larousse).

BOOKS OF IDIOMS

12. Billaudeau, Armand-Georges, *Collection of French Idioms, Sayings, and Proverbs with their English Equivalents and Meanings*. New York (G. E. Stechert). \$2.50.
13. Marchand, *Four Thousand French Idioms and Proverbs*. New York (Brentano).
14. Blanchaud, R. de, *Progressive French Idioms*. Boston (D. C. Heath) 1910.

b. GERMAN.

1. Heath's *German and English Dictionary*. New edition 1906 and 1909 by Prof. Karl Breul. \$1.50. D. C. Heath & Co. The German-English part has 797 pp. This work is the same as Cassel's *German Dictionary*. At present it is the best school dictionary at the price.

2. James, Wm., *Dictionary of the English and German Languages*. 44th edit., Leipzig (Tauchnitz), 1914. Two pts., in half morocco each 4 mks.; in one vol., 6.50 mks. A photographic reprint of the 1908 edition (both pts.) was published by Macmillan 1916, \$1.50. German-English part has 532 pp.

3. Brandt, H. C. G., *German and English Dictionary*. Holt. (In press 1917; will appear after the war; carefully edited for students' use.)

4. Muret-Sanders, *Enzyklopädisches Wörterbuch der englischen und deutschen Sprache*. Berlin-Schöneberg (Langenscheidt).

Grosse Ausgabe: Deutsch-Englisch. 2 vols. 2368 pp. Bound 42 marks. The *English-German* part, 2 vols. 2460 pp., costs the same. (This is the largest and best of all German-English dictionaries.)

Hand-und Schulausgabe: Deutsch-Englisch, 1224 pp. Bound 8 mks. (in U. S. A. \$2.50). *Englisch-Deutsch*, 1,100 pp., same price. (This is the latest, 1908, and best large dictionary at a moderate price, and the only one in which the latest rules of German orthography have been completely followed. It gives the quantity of vowels, accents, etc. Very good for scientific terms also.)

5. Lindemann, H., *Taschenwörterbuch der englischen und deutschen Sprache*. Berlin-Schöneberg (Langenscheidt). German-English and English-German purchasable separately, each 2 marks, or in one vol. 3.50 marks (India paper 5 marks). (This is the best pocket dictionary; over 1000 pp. Gives pronunciation, accent, etc.)

6. Max Bellow's *New German-English and English-German Dictionary*. \$1.75. Henry Holt. German-English and English-German on same page. Not so well adapted to students' use as Cassell-Heath, James, etc.

7. Grieb-Schröer, *Englisch-Deutsches und Deutsch-Englisches Wörterbuch*. Now published in Berlin-Schöneberg by the Mentor-Verlag. Two parts, each over 1200 large pp., bound 8.50 mks. each. (A reliable work. Indicates pronunciation, but has older spelling.)

8. *Allgemeines Englisch-Deutsches und Deutsch-Englisches Wörterbuch*, by Dr. Felix Flügel. The German-English part is in one volume, the English-German in two volumes. Third reprint of fourth edition in 1908. Braunschweig (George Westermann). \$12.

9. Flügel-Schmidt-Tanger., *German-English and English-German Dictionary*. Braunschweig (Westermann) 1895. Each part about 1,000 large pp. Bound 7.50 mks. each. Now inferior to Muret-Sanders, *Hand-und Schulausgabe*.

10. Whitney's *Compendious German and English Dictionary*. \$1.50. (Henry Holt). This, like Köhler's *German and English Dictionary*, is sadly in need of revision.

10a. Adler, G. J. *A German and English Dictionary*. German-English, 1903; 869 large pages, \$3.50; English-German, 1902; 539 pages, \$3.00. Both

parts in one volume \$6.00. New York. D. Appleton & Co. Recommended to those who need a work larger than the ordinary school dictionary, since it is the only work of its size to be had at present. The orthography is out of date in a few minor details only. There is also an abridged edition now much out of date at \$1.50 for both parts.

ALL-GERMAN DICTIONARIES:

11. Sanders, Daniel, *Handwörterbuch der deutschen Sprache*. Leipzig (O. Weigand). New one-vol. edition 1910. Bound 10 mks.
12. Königs *Grosses Wörterbuch der deutschen Sprache*. Berlin (W. Herlet) 1911. Bound 3 mks. (Over 700 pp., new spelling, foreign words, etc.)
13. Venn's *Deutsches Wörterbuch nach der neuen amtlichen Rechtschreibung für Schule und Haus*. 1905. Leipzig (Verlag T. A. Bergner). 3 mks.
14. Weigand's *Deutsches Wörterbuch*. 2 vols. 5th edition, edited by H. Hirt. Giessen (Töpelmann) 1909. Well recommended, strong on the side of etymology.
15. Viëtor, Wilhelm, *Deutsches Aussprachewörterbuch*. Leipzig. \$3.50.
16. Meyer's or Brockhaus' *Konversations-lexikon*, in 21 and 17 vols., respectively, (Leipzig) while including valuable lexicographical data, of course carries us into the realm of the encyclopedia.
17. Paul, Hermann, *Deutsches Wörterbuch*. Halle (Niemeyer). 2nd ed. 1908. Mks. 12.50. Scholarly treatment of a selected vocabulary.

c. SPANISH.

1. Arturo Cuyás' edition of Appleton's smaller *New Spanish Dictionary*. \$2.50 in one volume. D. Appleton & Co. 1904.
2. Angeli-McLaughlin, *New Spanish-English, English-Spanish Dictionary*. \$1.50. W. R. Jenkins, New York, Sixth Ave. at 48th St.
3. Salvá, Vicente, *Nuevo Diccionario de la lengua castellana por la academia española*. One vol., 11th edition, 1894. Paris (Garnier Frères).
4. Velázquez de la Cadena, Mariano, *A New Pronouncing Dictionary of the Spanish and English Languages*. Revised and enlarged by Gray and Iribas. Two volumes, purchasable separately. New York (D. Appleton & Co.) 1902.
5. Calleja, S., *Nuevo Diccionario manual, ilustrado, de la Lengua Castellana*. Madrid (Calle de Valencia 28). Edición económica, 1600 pp; edición corriente, 1900 pp. (about \$2.75); edición lujo, 2000 pp. 1914. An excellent work.
6. *Pequeño Larousse Ilustrado*. Paris (Larousse). 9 francs in cloth; 12 francs in flexible leather.
7. D. José Alemany y Bolufer *Diccionario de la Lengua Española*, Barcelona (Ramón Sopena) 1917. 10 pesetas. Very complete.

d. TECHNICAL DICTIONARIES.

For special commercial or technical dictionaries, and also for the larger dictionaries published abroad, write G. E. Stechert & Co., 155 West 25th St., New York City; Lemcke and Buechner, 30-32 West 27th St., New York City, or

W. R. Jenkins Co., Sixth Ave. at 48th St., New York City, who are importers. As examples may be cited:

- Eger's *Technologisches Wörterbuch*. 2 parts. Braunschweig (Brandes).
- Lang's *German-English Dictionary*. Philadelphia (Blakiston). For students of science and medicine. \$4.
- Douady, Jules, *Dictionnaire des termes de marine, anglais-français et français-anglais*. 12°. Paris (Challamel) 1909. 4.50 francs.
- A truly monumental work is the *Illustriertes Technisches Wörterbuch in sechs Sprachen, deutsch, englisch, französisch, russisch, italienisch, spanisch*, nach besonderer Methode bearbeitet von K. Deinhardt und A. Schломann, Ingenieure, published by R. Oldenbourg, München and Berlin. New York agents, McGraw Publishing Co. Each branch of technical activity has its special volume. Some twelve volumes have appeared thus far.

I. GRAMMARS AND SUPPLEMENTARY GRAMMATICAL AIDS.

Under this title are grouped a number of grammars and other books dealing with certain of the more difficult phases of grammar. Such books are of great help to that more intimate knowledge of a language which it is so difficult for the American-born teacher to obtain.

a. FRENCH.

1. Hennequin, Alfred, *A Practical Treatise on French Modal Auxiliaries, etc.* D. C. Heath 1899. 50 cents. A careful treatment of the intricate uses of "devoir", "falloir", "pouvoir", "savoir", and "vouloir".
2. Armstrong, Edward C., *Syntax of the French Verb*. Henry Holt & Co. Second edition 1915. This excellent treatise has exercises in connection and may be used as an advanced book in composition.
3. Storr, F., *Hints on French Syntax*. D. C. Heath, 1899. A brief summary of the more common syntactical difficulties.
4. Clarke, Charles C., *The French Subjunctive Mood; a brief inductive treatise with exercises*. D. C. Heath, 1901. 50 cents.
5. Darr, Mme. Francis J. A., *Verbes Français demandant des prépositions; leur emploi, avec beaucoup d'exemples tirés des dictionnaires de l'Académie, de Littré, et des meilleurs auteurs français*. W. R. Jenkins, 851 Sixth Ave., New York City. 50 cents. This book is an admirable supplement to the ordinary grammar; the material is arranged alphabetically.
6. Tarver, Francis, *French Stumbling Blocks and English Stepping Stones*. London (Murray) 1897. 2 sh. 6d.
7. Bernard, Victor F., *Les Fautes de Langage . . . Etude raisonnée des fautes de langage familières aux Américains qui s'exercent à parler français*. 50 cents. W. R. Jenkins, 851 Sixth Ave., N. Y. City.
8. Maloubier and Moore, *Helps for the Study of French*. W. R. Jenkins, 851 Sixth Ave., N. Y. City. This is an excellent manual of the leading points

of syntax with careful explanations of these difficulties from the standpoint of the English-speaking person. 60 cents.

9. Clarke, Charles C., *Common Difficulties in Reading French*. W. R. Jenkins, 851 Sixth Ave., N. Y. City. \$1. This book is an alphabetical list of those common difficulties which teachers as well as students encounter; it represents the ten years' experience of the author.

10. Tricoche, George Nestler, *Some Stumbling Blocks of the French Language and the Way to Avoid Them*. Park Place, Morristown, N. J. The same author has also published a *Vade Mecum du Professeur de Français*. Park Place, Morristown, N. J. Each book 75 cents.

11. Carré, I., *Le Vocabulaire Français, Etude des mots de la langue usuelle considérés 1° Quant à leur orthographe; 2° Quant à leur sens; 3° Quant à la manière dont ils s'unissent pour former des phrases*. Cours moyen et supérieur. Livre du Maître. Paris (A. Colin), 1909. 3 francs.

GRAMMARS

12. Augé, Claude, *Cours de Grammaire*. Paris, Librairie Larousse. This is a series of French grammars as presented to French pupils in France. The set should be bought in the "Livres du Maître" only, since these give the necessary explanations. \$2 will purchase the set of four "Livres du Maître." The popularity of these books and their usefulness are attested by the fact that over six million have been sold.

13. Plattner, Phillip, *Französische Schulgrammatik*. Karlsruhe (J. Bielefeld). This is an admirable reference grammar, prepared with that care and thoroughness characteristic of the Germans.

14. Plattner, Philipp, *Ausführliche Grammatik der französischen Sprache*. Karlsruhe 1899-1900. Vol I. Grammatik. Vol. II. Wörterbuch.

15. Brachet, Auguste, *Nouvelle grammaire française*. 13th edition. Paris (Hachette). 1 fr. 50.

16. Larousse, Pierre, *Grammaire Supérieure formant le résumé et le complément de toutes les études grammaticales*. Paris (Larousse). 3 francs. The firm of Larousse have a series of grammars not unlike those mentioned under 12 above, edited by Pierre Larousse, and widely used.

17. Brachet, Auguste, and Dussouchet, J. J. *Petite grammaire française fondée sur l'histoire de la langue*. Paris (Hachette). The Brachet-Dussouchet group of grammars of various grades are all excellent. They are published, together with their *Livres du maître* by Hachette.

18. Ayer, A. *Grammaire comparée de la langue française*. 4th edition. Genève, Bâle, Lyon, Paris. 1900. 700 pp. A very thorough book.

19. Clédat, Léon, *Grammaire raisonnée de la langue française*. 3rd edition. Paris (Le Soudier) 1894. Also a *Grammaire classique*, 1896.

20. Lücking, Gustav, *Französische Grammatik für den Schulgebrauch*. 3rd edition. Berlin, 1907.

21. Whitney, William Dwight, *A Practical French Grammar*. Henry Holt & Co. This is still one of the best reference grammars of French in the English language.

22. Edgren, A. Hjalmar, *A Compendious French Grammar*. D. C. Heath, 1897. The chapters on syntax are particularly useful.
23. Mention should be made of the *Larive et Fleury* set of grammars published by Armand Colin, and also of the set by A. Chassang, published by Garnier Frères. Both these sets are widely used in France.
24. The more advanced teacher dealing with the literature of the seventeenth century cannot neglect the *Syntaxe Française du XVII^e siècle*, by A. Haase, published by Alphonse Picard, Paris, 1898.

The following are for teachers who have had philological training:

25. Brunot, Ferdinand, *Précis de Grammaire Historique de la Langue Française avec une introduction sur les origines et le développement de cette langue*. 4th edition. Paris (G. Masson) 1899.
26. Brunot, Ferdinand, *Histoire de la langue française des origines à 1900*. 4 vols. Paris (A. Colin) 1905-13.
27. Nyrop, Kr. *Grammaire historique de la langue française*. Copenhagen, Leipzig, New York, Paris, 1904-1913. 4 volumes, of which Vol. 3, *Formation des mots* and Vol. 4, *Sémantique*, are especially stimulating.
28. Bourciez, E. *Eléments de Linguistique Romane*. Paris (Klincksieck) 1910.
29. Bourciez, E. *Précis Historique de Phonétique Française*. 3rd edition. Paris (Klincksieck) 1907.
30. Darmesteter, Arsène, *La Vie des Mots étudiée dans leurs significations*. 5e édition. Paris (Delagrave) 1895. 50 cents.
31. Darmesteter, Arsène, *Cours de grammaire historique de la langue française*. I. Phonétique; II. Morphologie; III. Formation des Mots et Vie des Mots; IV. Syntaxe. 6e édition; about \$2.50. Paris (Delagrave) 1891-1897.

b. GERMAN.

1. Curme, George O., *Grammar of the German Language*. The Macmillan Co. \$3.50. This is considered by most critics the best reference grammar of the German language.
2. Curme, George O., *A First German Grammar*, Oxford German Series, Oxford Univ. Press, New York 1914. With exercises. 90 cents.
3. Harris, Charles, *A German Grammar*. Am. Book Co., 1914. 352 pp. \$1.00. For second to fourth year. A conservative treatment of grammar (no exercises).
4. Classen, Ernest, *A Grammar of the German Language*. N. Y. Longmans, Green & Co. 1914. \$1.00. Like Harris and Thomas, a handy grammar for reference, but briefer than either. (Grammar proper 110 pp., no exercises except a few in English).
5. Thomas, Calvin, *Practical German Grammar. Revised*. Henry Holt & Co. \$1.25. With exercises.
6. Whitney, William D., *A Compendious German Grammar*. 6th edition 1888. Henry Holt & Co. \$1.30.
7. Jagemann, H. C. G. von, *Elements of German syntax*. 170 pages. 90 cents. Holt & Co.

- 8 Sütterlin, Ludwig, *Die deutsche Sprache der Gegenwart*. Ihre Laute, Wörter, Wortformen und Sätze. 415 pp. 3rd edition. Leipzig (Haberland) 1910. Bound mks 8.
- 9 Heyse, J. C. A. *Deutsche Grammatik*. Edited by O. Lyon. 28th ed. 1914. Hannover (Hahn). Mks. 6. A briefer edition, *Leitfaden der deutschen Sprache*. Mks. 1.80. Should be in the teacher's library.
- 10 Wilmanns, W., *Deutsche Schulgrammatik* (Klassen Quinta bis Tertia). Berlin (Weidmann). Mks. 1.25.
- 11 Behaghel, O., *Die deutsche Sprache*. Leipzig (G. Freytag). 4th ed. 1907. Mks. 4. An early edition was translated by Trechmann, *Short Historical Grammar of the German Language*. (Macmillan). \$1.
- 12 Ball, F. K., *German Drill Book*. D. C. Heath 1904. 80 cts.
- 13 Prehn, August H., *Practical Guide to German Vocabulary*. Oxford Univ. Press, N. Y. 1912. 75 cts.
- 14 Hastings, F. E., *Studies in German Words and Their Uses*. Boston (Heath) 1911. 240 pp. \$1.
- 15 Walter, Max, *Über die Aneignung und Verarbeitung des Wortschatzes*. Marburg (Elwert). Mk. 1.
- 16 Kluge, Fr., *Etymologisches Wörterbuch der deutschen Sprache*. Strassburg (Trübner). 8th edit. 1915. Bound mks. 10. Standard work.
- 17 Eberhard-Lyon, *Synonymisches Handwörterbuch der deutschen Sprache*. Leipzig (Grieben). About \$3.50.
- 18 Hoffmann, P. F. L., *Volkstümliches Wörterbuch der deutschen Synonymen*. Leipzig (F. Brandstetter). 6th ed. 1906. Mks. 1.40.
- 19 Schlessing, A., *Deutscher Wortschatz oder der passende Ausdruck*. 4th ed. Esslingen 1907. 7 mks. Patterned after Roget's Thesaurus of English Words and Phrases.
- 20 Sanders, D., *Wörterbuch der Hauptschwierigkeiten in der deutschen Sprache*. Grosse Ausgabe, Berlin-Schöneberg. Langenscheidt, 1908. Bound 5 mks. Very useful.
- 21 Grunow's *Grammatisches Nachschlagebuch*. Ein Wegweiser für jedermann durch die Schwierigkeiten der deutschen Grammatik und des deutschen Stils. 390 pp. Leipzig (F. W. Grunow) 1905. Mks. 2.50.
- 22 Duden, Konrad, *Rechtschreibung der deutschen Sprache und der Fremdwörter*. Leipzig (Bibliographisches Institut). 9th ed. 1915. 565 pp. Mks. 2.50. Valuable for every teacher. This work replaces Duden's *Orthographisches Wörterbuch*. There is also a *Kleines Wörterbuch der neuen Rechtschreibung*, 1915, 192 pp., mks. 1. 10.
- 23 Wessely, *Deutscher Wortschatz*. Grammatisch-stilistisch-orthographisches Handwörterbuch. Gotha (R. Schmidt's Verlag) 1912. Bound 10 mks. Valuable.
- 24 Vogel, A., *Ausführliches grammatisches and orthographisches Nachschlagebuch der deutschen Sprache*. Berlin (Langenscheidt) 1911. 526 pp. Mks. 2.80.
- 25 Wustmann, G., *Allerhand Sprachdummheiten*. Kleine deutsche Grammatik des Zweifelhaften, des Falschen und des Hässlichen. Leipzig (F. W. Grunow) 1903. Mks. 3.

26. Lambert, M. B., *Handbook of German Idioms*. 86 pp. New York (Henry Holt) 1910. 40 cts. Some 2000 idioms with English equivalents.
27. Koop, August, *Dictionary of German Idioms with their equivalents English*. London (Hachette) 1891. 2 sh. 6 d. 4000 idioms.
28. Taker and Roget, *German Idioms*. New York (Macmillan). 80 cts. About 3000 idioms with English equivalents.
29. Gould, C. N., *Handy German Grammar*. Chicago (Scott, Foresman & Co.) 1916. 50 cts. Convenient summary, no exercises.
30. Diekhoff, T. J. C., *The German Language. Outlines of its development*. New York (Oxford Univ. Press) 1914. \$1.25.
31. Prokosch, Eduard, *Sounds and History of the German Language*. New York (Holt) 1916. \$1.75.

The following are for teachers who have had philological training:

32. Behaghel, Otto, *Geschichte der deutschen Sprache*. 3rd edit. Strassburg (Trübner) 1911, (also in Paul's *Grundriss der germanischen Philologie*).
33. Wright, Jos., *Historical German Grammar*. New York 1907. Oxford Univ. Press. \$2. Presentation clear.
34. Wilmanns, W., *Deutsche Grammatik*. 3 vols.
35. Blatz, Fr., *Neuhochdeutsche Grammatik*. 2 vols.

c. SPANISH.

1. Ramsey, M. M., *A Text Book of Modern Spanish*. Henry Holt & Co. 1894. (An admirable reference grammar.)
2. Isaza, Emiliano, *Diccionario de la conjugación castellana*. 2nd edition. Paris 1900.
3. Salvá, Don Vicente, *Gramática de la lengua castellana segun ahora se habla*. 12th edition. Paris (Garnier Frères) 1897.
4. Bello, D. Andrés, and R. J. Cuervo, *Gramática de la lengua castellana destinada al uso de los Americanos*. Paris (Roger and Chernoviz) 1902.
5. *Gramática de la lengua castellana* por la Real Academia Española. Nueva edición, Madrid, 1900.
6. Cuervo, Rufino José, *Apuntaciones críticas sobre el lenguaje bogotano con frecuente referencia al de los países de Hispano-América*. Quinta Edición. Paris (Roger y Chernoviz) 1907.
7. Menéndez Pidal, Ramón, *Manual elemental de gramática española*. Tercera Edición. Madrid (Suárez). 1914.
8. Becker, Sarah Cary, and Mora, Federico, *Spanish Idioms with their English equivalents, embracing nearly ten thousand phrases*. Boston (Ginn & Co.) 1887. \$1.80.

J. MISCELLANEOUS REFERENCE BOOKS.

a. FRENCH.

1. Braunholtz, E. G. W., *Books of Reference for Students and Teachers of French*. A critical survey. 60 cents. London (Hachette) 1901.
2. Federn, Robt., *Répertoire bibliographique de la littérature française des origines à nos jours*. New York (G. E. Stechert & Co.) 1913. 612 pp. Cloth \$3. Very useful for ordering books. Gives prices, etc.
3. Lanson, Gustave, *Manuel bibliographique de la littérature française moderne 1500-1900*. 5 vols. Paris (Hachette) 1909-1914. Vol. I. was issued in a second edition in 1911.
4. Thieme, Hugo P., *Guide Bibliographique de la littérature française de 1800 à 1906*. Paris (H. Welter) 1907. Indispensable to the student of nineteenth century French literature.
5. Horluc, Pierre, and Georges Marinet, *Bibliographie de la Syntaxe du Français, 1840-1905*. Lyon-Paris 1908. A classified list on works dealing with every phase of French grammar.
6. Roustan, Marius, *La Littérature Française par la Dissertation*. Vol. 1. XVIIe siècle; Vol. 2. XVIIIe siècle; Vol. 3. XIXe siècle; Vol. 4. Moyen Âge et XVIe siècle. Paris (Delaplane) [1909-1912]. These volumes are most stimulating and helpful with their lists of topics suitable for essays, themes, or theses, and for private reading. Valuable bibliographical references are given with each topic.
7. Hémon, Félix, *Cours de Littérature à l'usage des divers examens*. Paris (Delagrave). These are most excellent books. The greater authors or subjects of French literature are thoroughly treated in such a way as to emphasize the essential features of each. There are then added dissertation and examination topics such as are given to students of French literature in France. Bibliographies accompany each section.
8. Joanne, Paul Bénigne, editor, *Dictionnaire géographique et administratif de la France*. Paris (Hachette) 1890-1905. Seven volumes. Illustrated.
9. Huguet, Edmond, *Petit Glossaire des Classiques Français du dix-septième siècle*. Paris (Hachette) 1907.

b. GERMAN.

1. Breul, Karl, *A Handy Bibliographical Guide to the Study of German Language and Literature*. London (Hachette) 1895. (With very extensive bibliography from an English point of view, but somewhat out of date.)
2. Poll, Max, *Bibliographical Hints for Teachers of German*. University of Cincinnati Teachers' Bulletin, Vol. I, No. 1 (1905). 30 pp.
3. Nollen, J. S., *Chronology and Practical Bibliography of Modern German Literature*. Chicago (Scott, Foresman & Co.) 1903. \$1.
4. Guerber, Adeline Helene, *Myths of Northern Lands*. Dodd, Mead & Co., New York, 1902. Also *Stories of the Wagner Opera* (same publishers).
5. *Deutscher Literaturkatalog*. Leipzig (F. Volckmar). Last revision 1914-1915. One large volume, 2100 pp., indexed. \$1. Lists books of all Ger-

man publishers in nearly all fields, gives prices, etc. Sold by G. E. Stecher & Co., 155 W. 25th St., New York.

6. Herzog, Joh. A., *Poetik*. Leipzig (G. Freytag) 1914. Mks. 1.50. Most excellent brief work for the teacher.

7. Degener, H. A. L., *Wer ist's?* Leipzig. American agent, G. E. Stecher & Co. Cost about \$3. An annual publication; the German *Who's Who?*

8. Kürschner, J., *Jahrbuch*. Berlin (H. Hillger). Mks. 1.80. An annual containing up-to-date information on German affairs, customs, institutions and the like.

9. Max Müller, *The German Classics from the Fourth to the Nineteenth Century*. Two vols. Charles Scribner's Sons. Contains short selections from all the great works.

10. Thomas, Calvin, *An Anthology of German Literature (800-1800)*. D. C. Heath & Co. \$2.25.

11. Collitz, Klara H., *Selections from Early German Literature (750-1500)*. American Book Co. \$1.

12. Collitz, Klara H., *Selections from Classical German Literature (1500-1805)*. Oxford Univ. Press 1914. \$1.50.

—There are other excellent anthologies too numerous for special listing here.

13. Because of the large number of books dealing with individual writers it is quite impossible to furnish a list. The following, therefore, is simply suggestion of this type of book:

—Bielschowsky, Albert, *The Life of Goethe*. Three vols.. Translated by Wm. A. Cooper. G. P. Putnam's Sons 1908.

Similar standard works on Lessing, Goethe and Schiller are listed in Carl Schlenker's *Bulletin for Teachers of German*, University of Minnesota 1916, page 29.

c. SPANISH.

1. Benot, Eduardo, *Diccionario de Ideas Afines, etc.* Similar to Roget's *Thesaurus of English Words*. Madrid (Mariano Nuñez Samper).

2. Caballero, Ramón, *Diccionario de Modismos (frases y metáforas)*. Madrid (Antonino Romero).

3. Benot, Eduardo, *Prosodia Castellana i Versificación*. 3 vols. Madrid (Juan Muñoz Sanchez).

4. Hanssler, William, *A Handy Bibliographical Guide to the Study of the Spanish Language and Literature*. 63 pages. St. Louis, Mo. (C. Witter) 1915.

d. GENERAL.

1. Gayley and Scott, *An Introduction to the Methods and Materials of Literary Criticism*. Boston (Ginn & Co.) 1899. \$1.25. With valuable bibliographies.

2. Gummere, Francis B., *A Handbook of Poetics*. Boston (Ginn & Co.) 1885. \$1.

3. Renard, Georges François. *La Méthode Scientifique de l'histoire littéraire*. Paris (Alcan) 1900.

II. THE TEACHER IN THE CLASS ROOM

In the following references are listed such matters as have been shown to be stimulating and helpful to the teacher in his actual class room activities. Naturally many of the references found under "The Training of the Teacher" would also have value here, especially "Aids to Correct Pronunciation", illustrated "Books of Travel", "Histories of Literature" as well as "Political Histories". Such material if wisely used is of immense value to pupil as well as teacher, and might well form the basis of reading outside the class room for advanced classes.

Below will be found not only suggestions for class room material, but the addresses of reliable houses where such articles may be secured.

A. NEWSPAPERS AND PERIODICALS FOR CLASS ROOM USE, OR FOR OUTSIDE READING.

NOTE: For periodicals published abroad address The International News Co., 83 Doane St., New York City; G. E. Stechert & Co., 155 W. 25th St., New York City; Lemcke and Buechner, 30-32 W. 27th St., New York City; or W. R. Jenkins, Sixth Avenue at 48th St., New York City, of whom either single copies or full subscriptions may be obtained.

a. FRENCH.

1. *Choses et Autres, petit journal mensuel, à l'usage spécial des étudiants de la langue française.* Philadelphus Publishing Co., 1709 Chesnut Street, Philadelphia, Penn. 50 cts. single subscription; 40 cts. in club or school subscriptions.
2. *L'Echo des Deux Mondes*, published at 542 Dearborn Street, Chicago, Ill. A monthly. \$2 a year (club rates less). Clubs of 15, \$1 each.
3. *Lectures pour Tous*, issued twice a month. Hachette & Cie. 79 Boul. Saint-Germain, Paris. \$3.50 a year, the year beginning with the October first issue.
4. *Larousse Mensuel Illustré.* \$2.50 a year. Librairie Larousse, 13-17 rue Montparnasse, Paris.
5. *Les Annales politiques et littéraires.* A weekly. Paris. 51 rue Saint-Georges. 18 francs a year or 22 francs for an edition on superior paper. An excellent journal (see 8 below).
6. *Le Monde Illustré.* A weekly. Paris.
7. *L'Illustration.* This is a far more expensive weekly, but might well be

subscribed for by the school library for general use. It costs about \$10 yearly, and is published in Paris. It has often supplements of modern novels, and one of its distinctive features is its supplement called *L'Illustration Théâtrale*. This contains the texts, with photographs of leading scenes, of most of the recent plays produced on the stages of the French capital.

8. *Journal de l'Université des Annales*, publiant toutes les conférences faites à l'Université des Annales. 51 rue Saint-Georges, Paris. This excellent illustrated journal appears twice a month. 15 francs a year. Its contributors are among the most celebrated men of France, and its articles are of wide cosmopolitan and literary interest. The 1917 volume will be the eleventh year. This journal and "Les Annales Politiques et Littéraires" (see 5 above) will be sent for a reduced price of 30 francs for both.

9. There are also French daily papers published in this country and in Canada. One of the best known is *Le Courier des Etats Unis*, issued in New York City. Such a newspaper makes excellent supplementary reading in the class room, or as outside work for the pupil.

10. In this connection attention is called to an excellent book for attaining proficiency in the reading of newspaper French. This is Felix Weill's *French Newspaper Reader* (American Book Co.). 1912. 50 cents.

A similar book is *French of Today. Readings in French Newspapers*, selected by Pierre de Bacourt and John W. Cunliffe, with a preliminary sketch of *The Development of the French Press* (42 p.). Macmillan, 1917.

b. GERMAN.

1. *Aus Nah und Fern*. General editor, Arthur G. Merrill. Published by the F. W. Parker School Press, Chicago, Ill. Four numbers a year. Individual subscriptions 50 cents; club subscriptions 40 cents.

2. *Der gute Kamerad* (for boys) and *Das Kränzchen* (for girls). Illustrated periodicals published by the Union Deutsche Verlagsanstalt, Stuttgart and Berlin. 8 mks. each a year. Very attractive for high school pupils.

3. *Die Woche*. Popular illustrated weekly with a large circulation. Berlin (Aug. Scherl).

4. *Über Land und Meer*. \$5.50 Stuttgart (Deutsche Verlags Anstalt).

5. *Die Kunst für Alle*. \$5.

6. *Die Gartenlaube*. \$5.

7. *Leipziger Illustrierte Zeitung*. Highly recommended. \$9-\$10 a year.

8. For present day literature the following reviews are of special interest and value to teachers:

Die Deutsche Rundschau. \$10. Berlin (Geb. Paetel).

Die Neue Rundschau. \$9. Gross-Lichterfelde-Berlin (Paul Zollmann).

Das Literarische Echo. \$5. Berlin (Fleischel & Kompagnie).

Der Kunstwart.

9. German newspapers published in America. The leading ones are:

Die Illinois-Staatszeitung, Chicago.

Die New Yorker Staatszeitung, New York.

Die Volkszeitung, St. Paul.

Der Herald, Minneapolis.

Die Westliche Post, St. Louis, whose large Sunday issue is called *Die Mississippi-Blätter*.

10. Of aid in acquiring facility in reading German newspapers and periodicals is August Prehn's *Journalistic German, Selections from current German periodicals with vocabulary*. The American Book Co. 50 cts.

c. SPANISH.

1. *Alrededor del Mundo*, an illustrated weekly. \$3 a year. Madrid.
2. *El Nuevo Mundo*, an illustrated weekly. \$3 a year. Madrid.
3. *Blanco y Negro*, an illustrated weekly. About \$5 a year. Madrid.
4. *Mercurio*, an illustrated monthly. \$1.50 a year. New Orleans, La. (Association of Commerce Building).
5. *Latin America*, English and Spanish. Semi-monthly. 502 Board of Trade Bldg., New Orleans, La.
6. *Las Novedades*, an illustrated weekly. \$5 per year; \$1.30 for three months. 225 West 39th St., New York City. Considered by many the best Spanish newspaper published in the United States. It has been used successfully in Spanish classes, in which cases special subscription prices obtain.
7. *Las Américas*, Illustrated monthly. Official organ of the Pan American States Association. Hotel McAlpin, New York City. \$3 yearly.
8. Reference may well be made again to the Spanish editions of the bulletins published by the Pan American Union, Washington, D. C. (see above under Books of Travel: f. Hispanic America, page 13).

B. ILLUSTRATIVE MATERIAL.

a. GENERAL STATEMENT.

In the matter of using illustrative material in the class room the Germans have been pioneers. Hence much of the material necessary for instruction in French and Spanish may be ordered through German houses. Below is a list of such houses which have proved thoroughly reliable. Under the divisions "French" and "Spanish" are given other firms in France and Spain respectively:

- "Bibliotheca Paedagogica", Verzeichnis der bewährtesten und neuesten Lehrmittel etc." This catalogue is issued by K. F. Koehler of Leipzig, and Neff & Koehler of Stuttgart. Write G. E. Stechert & Co., 155 West 25th St., New York City, for "Fachkatalog II".
- "Schulwart-Katalog, ein illustriertes Verzeichnis der besten Lehr-und Lernmittel". Articles in this catalogue may be procured through the Simon Schropp'sche Landkarten-Handlung, Berlin.
- Catalog of the affiliated firms of F. Volckmar, L. Staackman and Albert Koch & Co.; Leipzig (Königstrasse 35-37); Berlin S. W. 68 (Schützenstrasse 29); Stuttgart (Graf Eberhardbau).

Articles in these several catalogues (which are more or less alike) may be ordered through K. F. Koehler, Leipzig, or the "Leipziger Lehrmittel-Anstalt" of Dr. Oskar Schneider, Leipzig, or may be imported through G. E. Stechert & Co., 155 W. 25th St., New York, A. J. Nystrom & Co., 623 S. Wabash Ave., Chicago, or Ritter & Flebbe, 120 Boylston St., Boston, Mass. In general it is cheaper to do one's own importing or to make use of an eastern firm.

For 25 cents the National German-American Teachers' Seminary of Milwaukee (558 Broadway) will send the catalog of material used in their courses of modern language instruction. Attention is also called to the article "Bilder für den Anschauungsunterricht", pp. 186-188 of Vol. XIV (May, 1913) of the *Monatshefte für deutsche Sprache und Pädagogik*, published at the above address.

Under the title *Illustrative Material for History Classes* the History Teachers' Magazine for June, 1913 published an admirable list of dealers in slides, photographs, casts, maps, etc., many of them being American firms readily accessible. This magazine is published by the McKinley Publishing Company, 1619 Ranstead St., Philadelphia, Pa. See also Krey's *Bulletin for Teachers of History*, sold by the Librarian of the University of Minnesota, Minneapolis. 25 cts.

In this connection teachers and pupils are strongly urged to visit such collections as the Germanic Museum of Harvard or the Museum of European Culture at the University of Illinois. While it would be impossible for the average school to duplicate such collections, a small beginning would prove stimulating. The firm of P. P. Caproni & Brother, 1914-1920 Washington St., Boston, Mass., makers of plaster casts, is highly recommended.

b. MAPS.

- Rand, McNally & Co. of Chicago and New York, besides publishing excellent maps themselves, are agents for the maps made by Richard Kiepert of Berlin and by Edward Stanford of London.
- Other publishers of maps are:
 - Justus Perthes of Gotha, Germany.
 - W. & A. K. Johnston of Edinburgh and London.
 - Hachette, Dufour, and Forest, all of Paris.
 - Richard Andree, whose publishers are Velhagen and Klasing of Bielefeld and Leipzig.
- An excellent "Plan de Paris" is published by the Maison Andriveau-Goujon (H. Barrère, éditeur, 21 rue du Bac, Paris).
- A well-recommended map of Germany and adjacent lands is that of Ed. Gaebler entitled *Deutsches Reich, Niederlande, Belgien, Schweiz und Deutsch-österreichische Länder*, bearbeitet und gezeichnet von Ed. Gaebler. Leipzig. (G. Lange). Mounted on sticks, mks. 22.
- A large colored wall map of Berlin is Gebhardt's "Monumentalplan von

- Berlin." On linen with rods 15 marks; small edition 60 pff.
- Maps for the study of Schiller are Vogt's Wall Map for *Wilhelm Tell* (on linen with rods 6.50 mks.) and Teetz' Wall Map for *Die Jungfrau von Orleans* (on linen with rods 10 mks.). Another *Wilhelm Tell* map is by Rein.
 - Historical Wall Maps are especially necessary in the teaching of literature. The best known are those by W. & A. K. Johnston, Baldamus-Schwabe, Spruner-Bretschneider, Haack-Hertzberg, MacCoun, etc. Information concerning these maps may be had from A. J. Nystrom & Co., 623 So. Wabash Avenue, Chicago. This firm also handles the excellent Kuhnert Relief-Like Maps, which indicate better than other maps the physical qualities of a country.
 - The so-called *Gutjahr Series of Language Maps* of France and Germany, also maps of Paris and of Berlin are excellent, and may likewise be secured of A. J. Nystrom & Co. Send for their catalogue "A World of Maps."
 - The Oxford Historical Wall Maps, 32 x 40 inches, each \$1.75, are also good. They may be secured from the Oxford University Press, American Branch, 35 West 32nd St., New York City, and a descriptive circular will be mailed on request.

c. ILLUSTRATED ALBUMS, RICHLY ILLUSTRATED BOOKS, ETC.

1. FRENCH.

- Lacroix, Paul, *Le XVIIe Siècle. Institutions, Usages et Costumes*. Paris (Firmin-Didot) 1875.
- Lacroix, Paul, *Le XVIIIe Siècle. Institutions, Usages et Costumes*. Paris (Firmin-Didot) 1875. This has been issued in an English translation published by Scribner's, 1876.
- Lavis, E., and A. Parmentier, *Album Historique, publié sous la direction de Ernest Lavis*. Four vols.: 1. Le Moyen Âge. 2. La fin du Moyen Âge. 3. Le XVIe et le XVIIe siècle. 4. Le XVIIIe et le XIXe siècle. Each volume contains from 1500 to 2000 engravings. Price per vol. \$4.
- Rodin, Auguste *Les Cathédrales de France*, including among other illustrations 100 plates. Paris (A. Colin; 103 Boulevard Saint Michel). \$10.
- Bourgeois, Emile, *Le Grand Siècle—Louis XIV. Les Arts. Les Idées*. Richly illustrated. Paris (Hachette) 1896.
- Dayot, Armand, *Louis XIV. Napoléon. La Révolution*, etc., etc. "Illustrations d'après des Peintures, Sculptures, Gravures, etc., du temps." Paris (Ernest Flammarion).
- Paris à travers les âges . . . depuis le XIIIe siècle jusqu'à nos jours*. 2 vols. quarto. Paris 1885 (Firmin Didot).
- Attention is again called to the illustrated histories of literature mentioned in earlier paragraphs, such as Petit de Julleville; Abry, Audic and Crouzet, Suchier and Birch-Hirschfeld. There may be found portraits of writers, reproductions of manuscripts, etc., etc.

- The firm of Henri Didier, 4-6 rue de la Sorbonne, Paris, issues a series of editions called, *Notre Corneille*, *Notre Rousseau*, *Notre La Bruyère*, etc., in which historical illustrations are combined with excellent editorial work. These books sell at very reasonable prices ranging from two to six francs.
- The Librairie Nadaud & Co. of Paris (47 rue Bonaparte) publishes a number of beautifully illustrated books on France. Among them are *Les Rues de Paris* with descriptive historical text (published in fascicles, one to each arrondissement, and purchasable separately at five francs each); *Les Fleuves de France* (Seine, Loire, Rhône, Garonne). 4 vols., each 20 francs. The same house issues Havard's *dictionnaire* of furniture and decoration, and Jacquemin's *iconographie* of costume.
- Raciné's *Le Costume Historique* is a superbly illustrated book in many volumes of the costumes of all ages and lands.
- The Librairie Larousse, 13-17 rue Montparnasse, Paris, publishes a series of beautiful books at a reasonable price, called "Collection in 4° Larousse" and including such titles as *La France*, *Géographie illustrée*, *Histoire de France illustrée*, *La Belgique illustrée*, etc., etc.

2. GERMAN.

- Könnecke, Gustav, *Bilderatlas zur Geschichte der deutschen Nationalliteratur*. Enthaltend 1675 Abbildungen. Marburg, Germany (N. G. Elwert'sche Verlagshandlung). About \$7. The last edition is 1912. The earlier edition was 1887. Finely executed copies of portraits, pages of early editions, manuscripts of literary celebrities, etc., etc.
- Könnecke, Gustav, *Deutscher Literatur-Atlas*. Mit einer Einführung vom Chr. Muff. Abridged. Marburg (N. G. Elwert). Mks. 6. Excellent.
- Ratzel, Fr. *Deutschland. Einführung in die Heimatkunde*. Leipzig (F. W. Grunow). 3rd edit. 1911. Mks. 3.60. A charming little work from the hand of a master. Has a few illustrations.
- Julien, Rose, *Die deutschen Volkstrachten zu Beginn des 20. Jahrhunderts*. Munich (Bruckmann) 1912. Mks. 6. 250 illustrations. A fine little book.
- Schultz, Alwin, *Deutsches Leben im XIV. und XV. Jahrhundert. Familienausgabe*. Richly illustrated. Prag, Wien, Leipzig. 1892.

3. SPANISH.

- Huntington, A. M., *A Note-Book of Northern Spain*. New York (Putnam's) 1898. \$3.50. Delightfully written and beautifully illustrated, with a remarkable chapter on a Spanish bull-fight.
- Wood, C. W., *The Romance of Spain*. London (Macmillan) 1900. \$3.50.
- Wood, C. W., *The Glories of Spain*. London (Macmillan) 1901. \$3.50.
- Williams, Leonard, *The Land of the Dons*. London (Cassel) 1903. \$4.
- Williams, Leonard, *Toledo and Madrid*. London (Cassel) 1903. 12 sh. 6d.
- The following books by A. F. Calvert, known as the *Spanish Series* are extremely useful. Each volume consists of about half text and the remainder of excellent half-tones, numbering several hundred. The

price per volume, except the last, is \$1.25. The list follows: *Alhambra of Granada; Cordova; El Greco; Goya; Leon, Burgos and Salamanca; Madrid; Murillo; Royal Palaces in Spain; The Escorial; The Prado; Toledo; Velasquez; Valladolid, Oviedo, Segovia, Zamora, Avila, and Saragossa.* The *Moorish Remains in Spain* is \$15. The publishers are the John Lane Co. of New York and London.

—Sanpere y Miquel, Salvador, *Historia del Lujo*. Two volumes. Barcelona, 1886. Vol. I treats of all civilized countries; Vol. II of Europe, especially Spain.

d. PICTURES AND PHOTOGRAPHS.

1. FRENCH.

- Braun, 43 Avenue de l'Opéra and 18 rue Louis le Grand, Paris.
- E. Hauteœur, 35 Avenue de l'Opéra, Paris.
- Kuhn, 220 rue de Rivoli, Paris.
- Further Paris addresses may be found in Baedeker's Guide Book of Paris.
- George Philip and Son, London.

2. GERMAN.

- Berliner Photographische Gesellschaft, Berlin, C. An der Stechbahn 1. New York store, Berlin Photographic Co., 305 Madison Ave., N. Y. City. All sizes from 5 x 10 inches up; all prices from 25 cents up; in black, sepia, etc.
- Neue Photographische Gesellschaft, Steglitz-Berlin. The American agents are Jones-Keyser Co., 142-146 West 24th Street, New York City. Excellent photographic reproductions may be obtained for 50 pff. each, and in quantities for 40 pff. each.
- Edm. von König, Hauptstrasse, Heidelberg.
- Stückelberg's two Colored Wall Pictures from *Wilhelm Tell* (reproduced from the famous paintings in the Tellskapelle, Lake of Lucerne) are worthy of special mention here. They cost 4.80 marks each or 8 marks for both.
- Geographical Pictures: Two sets of these are for sale by A. J. Nystrom & Co., 623 S. Wabash Ave., Chicago. One set is sold for \$3 each picture (size 43 x 33 inches); the other less elaborate (35 x 26 inches) sells for \$1.15 each. Among the subjects are The Rhine at Bingen, Dresden, Hamburg Harbor, Cologne Cathedral, Harz Mountains, The Falls of the Rhine, The Black Forest, etc.

3. SPANISH.

- Hauser y Menet, Ballesta 30, Madrid. Write for catalogue.

4. GENERAL.

- The Detroit Publishing Company, Detroit, Michigan, sell the *Aac Photographs* of Scenery and Architecture in the natural colors and in various sizes. Their catalogue J (Foreign Section) will be sent on receipt of 25 cts. The same firm deals in lantern slides, souvenir post cards, plain

- The firm of Henri Didier, 4-6 rue de la Sorbonne, Paris, issues a series of editions called, *Notre Corneille*, *Notre Rousseau*, *Notre La Bruyère*, etc., in which historical illustrations are combined with excellent editorial work. These books sell at very reasonable prices ranging from two to six francs.
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- Könnecke, Gustav, *Deutscher Literatur-Atlas*. Mit einer Einführung von Chr. Muff. Abridged. Marburg (N. G. Elwert). Mks. 6. Excellent.
- Ratzel, Fr. *Deutschland. Einführung in die Heimatkunde*. Leipzig (F. W. Grunow). 3rd edit. 1911. Mks. 3.60. A charming little work from the hand of a master. Has a few illustrations.
- Julien, Rose, *Die deutschen Volkstrachten zu Beginn des 20. Jahrhunderts*. Munich (Bruckmann) 1912. Mks. 6. 250 illustrations. A fine little book.
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- Williams, Leonard, *The Land of the Dons*. London (Cassel) 1903. \$4.
- Williams, Leonard, *Toledo and Madrid*. London (Cassel) 1903. 12 sh. 6d
- The following books by A. F. Calvert, known as the *Spanish Series* are extremely useful. Each volume consists of about half text and the remainder of excellent half-tones, numbering several hundred. The

price per volume, except the last, is \$1.25. The list follows: *Alhambra of Granada; Cordova; El Greco; Goya; Leon, Burgos and Salamanca; Madrid; Murillo; Royal Palaces in Spain; The Escorial; The Prado; Toledo; Velasquez; Valladolid, Oviedo, Segovia, Zamora, Avila, and Saragossa.* The *Moorish Remains in Spain* is \$15. The publishers are the John Lane Co. of New York and London.

- Sanpere y Miquel, Salvador, *Historia del Lujo*. Two volumes. Barcelona, 1886. Vol. I treats of all civilized countries; Vol. II of Europe, especially Spain.

d. PICTURES AND PHOTOGRAPHS.

1. FRENCH.

- Braun, 43 Avenue de l'Opéra and 18 rue Louis le Grand, Paris.
- E. Hauteœur, 35 Avenue de l'Opéra, Paris.
- Kuhn, 220 rue de Rivoli, Paris.
- Further Paris addresses may be found in Baedeker's Guide Book of Paris.
- George Philip and Son, London.

2. GERMAN.

- Berliner Photographische Gesellschaft, Berlin, C. An der Stechbahn 1. New York store, Berlin Photographic Co., 305 Madison Ave., N. Y. City. All sizes from 5 x 10 inches up; all prices from 25 cents up; in black, sepia, etc.
- Neue Photographische Gesellschaft, Steglitz-Berlin. The American agents are Jones-Keyser Co., 142-146 West 24th Street, New York City. Excellent photographic reproductions may be obtained for 50 pff. each, and in quantities for 40 pff each.
- Edm. von König, Hauptstrasse, Heidelberg.
- Stückelberg's two Colored Wall Pictures from *Wilhelm Tell* (reproduced from the famous paintings in the Tellskapelle, Lake of Lucerne) are worthy of special mention here. They cost 4.80 marks each or 8 marks for both.
- Geographical Pictures: Two sets of these are for sale by A. J. Nystrom & Co., 623 S. Wabash Ave., Chicago. One set is sold for \$3 each picture (size 43 x 33 inches); the other less elaborate (35 x 26 inches) sells for \$1.15 each. Among the subjects are The Rhine at Bingen, Dresden, Hamburg Harbor, Cologne Cathedral, Harz Mountains, The Falls of the Rhine, The Black Forest, etc.

3. SPANISH.

- Hauser y Menet, Ballesta 30, Madrid. Write for catalogue.

4. GENERAL.

- The Detroit Publishing Company, Detroit, Michigan, sell the *Aac Photographs* of Scenery and Architecture in the natural colors and in various sizes. Their catalogue J (Foreign Section) will be sent on receipt of 25 cts. The same firm deals in lantern slides, souvenir post cards, plain

- and hand-colored prints, etc. They are the agents of the Photoglob Company of Zurich, Switzerland.
- Perry Picture Co., Malden, Mass.
 - Bureau of University Travel, Trinity Place, Boston, Mass.
 - Elson Art Publishing Co., Belmont, Mass.
 - National Art Supply Co., Chicago.
 - Goder-Heimann Co., Chicago, who were succeeded by A. J. Nystrom & Co., 623 S. Wabash Ave.
 - Franz Hanfstaengl, 543 Fifth Avenue, New York City, and Munich. Fine Arts Publishing House. Catalogue of Reproductions of the works of the old masters.
 - D. Anderson, Editeur-Photographe, Rome, Italy, 7-A. Via Salaria.
 - George Philip & Son, London, England.
 - F. Bruckmann A. G. Munich. Photographs of old and modern masters, fine color reproductions, etc.
 - Foster Brothers, 4 Park Square, Boston, Mass. American agents for the *Medici Prints*.
 - Georg D. W. Callwey, Munich, publishes an admirable series of *Meisterbilder* or reproductions of noted pictures (over 200 at 25 pff. each); also an excellent series of *Künstlerrnappen* or portfolios of different artists; also postcards, especially several series of silhouette postals. Write for catalogue.
 - The Art Institute of Chicago now publishes color prints and post cards of most of its masterpieces. Among these are many works by French, German and Spanish artists and sculptors. Particularly beautiful are the colored post cards. A "Price List of Publications, Reproductions, Photographs, Post Cards, etc.," will be sent on request.
 - Seemann's photoprints of renowned works of art and architecture. There are some 200 of these, 60 x 78 cm.; 10 may be bought for \$6.50. The list contains many from France, Germany and Spain. See complete list in the catalogues issued by A. J. Nystrom & Co., 623 So. Wabash Ave., Chicago.
 - The *Gokeiko* Imported Bas-Relief Pictures are particularly effective for school decoration purposes. Among the hundred or more in the list are several of especial interest to language teachers, Schiller, Goethe, Napoleon, Joan of Arc, Head of Laocoon, etc. Sizes vary from 6¼ x 8 inches to 13½ x 16½ inches; prices range from 75 cents to \$2 frame. Their background of rich black plush brings out the subjects in beautiful relief. For sale by A. J. Nystrom & Co., 623 S. Wabash Avenue, Chicago.
 - The firm of B. G. Teubner of Leipzig publishes a series of *Künstler-Steinzeichnungen*, several hundred in all. These are of different sizes and prices (the largest are six marks, 100 x 70 centimetres), and are reproductions of famous paintings. Write the firm for a complete catalogue with miniature reproductions; the cost of the catalogue is the postage, about fifteen cents. These pictures are admirable for school decoration. American agency, Atkinson, Mentzer & Co., 318 W. Washington St., Chicago.

e. POST CARDS.

1. FRANCE.

- Kuhn, 220 rue de Rivoli, Paris. Views of France of all sorts.
- Librairie H. Didier, 4 et 6 rue de la Sorbonne, Paris. Publishes a series of postcards for instruction in French literature, called *La Littérature par l'Image*. The subscription is \$2 yearly for twelve monthly "pochettes" of 12 cards each. Thus far have appeared the following series of twelve each: Molière, Victor Hugo, L'Ancien Théâtre, Corneille, Racine, Voltaire (two series), Montaigne, Balzac, Châteaubriand, etc. Each card has a 'notice explicative'. Individual "pochettes" may be purchased at one franc each. The same firm also publishes these pictures as appendices to its editions of individual plays of Corneille, Racine and Molière. Each play in addition has admirable notes and sells for one franc bound. They deserve wide usage.
- Post cards of masterpieces of painting and sculpture may be secured in all the stores mentioned under "d. Pictures and Photographs. 1. French."
- The Art Institute of Chicago also publishes postcards of its masterpieces.

2. GERMANY.

- Augusta M. Kelley, Centreville, Mass., imports postcards of the leading German and Swiss cities and monuments. Price, 25 for \$1. 25 Rhine views may be had for 50c; 25 peasant costumes for 75c; 12 of Nürnberg 25c, etc.
- G. E. Stechert & Co., 155 West 25th St., New York City, imports all sorts of colored cards. They cost two cents each.
- Other addresses abroad are as follows:
 - Berlin: Verlag der Neuen Photographischen Gesellschaft, Steglitz-Berlin. Also Verlag von Gustav Liersch & Co.
 - Munich. T. A. Ackermann Kuntsverlag, Barerstrasse 42.
 - Frankfurt am Main: Verlag des Städelchen Kunst-Instituts.
 - Cologne: Verlag von Hoursch und Bechstedt.
 - Nuremberg: L. Ostermayer, Königstrasse 31-37. Also S. Soldan'sche Verlagsbuchhandlung (A. Zemsch).
 - Heidelberg: Edm. von König, Hauptstrasse.
 - Berne, Switzerland: Kaiser & Co., Marktgasse 39-43.
 - Aldorf, Switzerland: Ernst Mutter Huesser.
 - Interlaken, Switzerland: M. & E. Urfer. Buch-und Kunsthandlung.
 - Lucerne, Switzerland: E. Goetz, Photograph.
- Among the favorite postcards may be mentioned the Albrecht Dürer cards, the silhouette cards of Goethe and Schiller, Goethe in Italy, the Kaiser and the Kaiserin with the Kaiserhymn, the "Grosse Worte des Kaisers", and so on.

3. SPAIN.

- Hauser y Menet, Ballesta 30, Madrid.

f. WALL CHROMOLITHOGRAPHS, ETC., FOR CONVERSATIONAL DRILL

1. FOR SEVERAL LANGUAGES.

—Most of the wall charts and pictures in this list can be used in instruction in French, German and Spanish. The most widely known are the conversational charts published by Ed. Hoelzel, Vienna IV, 2. Luisengasse 5. These are 92 x 140 centimetres in size and cost about \$1.50 each. The subjects are as follows: Spring, Summer, Autumn, Winter, Farm, The Mountain, The Forest, The City, Paris, London, Be Vienna, Prague, The Home, The Harbor, The Building, Mining Forging (double picture).

Most of these charts are issued in a smaller book size for home study by the pupil. These are 19 x 29 centimetres and fold into pamphlets containing the vocabulary and conversational drill upon each picture. These pamphlets may also be bought bound as a volume without the pictures. Each pamphlet costs about fifteen cents.

A similar material in nine pamphlets at .10 cents each is the C. Fussli's *Bildersaal für den Schulunterricht*, by G. Egli, Sekundarlehrer, Zürich (Art Institut Orell Fussli).

—Other colored lithographic charts of especial excellence are:

The *Anschauungsbilder* published by Ferdinand Hirt of Breitenburg (Königsplatz 1) and designed by Walter Georgi. These are 100 x 131 centimetres in size and are eight in number: Spring, Summer, Autumn, Winter, Mountains, Woods, A Metropolis, A Seaport. These may be obtained also in smaller book size at 50 pff. for the entire series.

The *Hey-Spekter Fable Pictures* issued by Pfeiffer & Kull, published by Perthes of Gotha. Price each 2.40 mks. These pictures are very artistic.

The *Künstler-Steinzeichnungen* (various sizes and prices) published by R. Voigtländer of Leipzig. There are about 600 pictures by nearly a hundred different artists. A catalogue is sent on request.

The firm of F. E. Wachsmuth, Kunst-und Schulbilderverlag, Leipzig issues a catalogue in six volumes of many other valuable series (Animal Pictures, National Types, Historical and Geographical Pictures and the like). Other firms issuing similar series are B. G. Teubner of Leipzig, C. G. Meinhold Söhne of Dresden, and Voigtländer of Leipzig.

J. F. Schreiber's Verlag in Esslingen near Stuttgart publishes the *Esslinger Bilder*. These pictures show the greatest variety of objects: household furniture, tools of various trades, street scenes, the seas, animals, insects, etc., etc. The same 27 pictures may be had in book form and separately on paper or cardboard. In the cardboard form they are ready to hang up.

The Lehmann *Kulturhistorische Bilder* are excellent either for school adornment or for the basis of conversational drill. They are most artistically done in many colors and are 36 in. x 26 in. in size.

There are some 25 of them. Among these are the following scenes: Castle of a medieval knight; living room of such a castle; medieval tournament; attack upon a medieval walled city; a medieval German city; camp life in the Thirty Years' War; life in the rococo age of the 18th century; a burgher's home; a medieval monastery; the life of such a monastery; a religious procession in the 15th century, etc., etc. These admirable pictures may be ordered through G. E. Stechert & Co. of New York City (155 West 25th St.), or through A. J. Nystrom & Co., 623 S. Wabash Ave., Chicago. The latter firm carries them in stock.

2. FRENCH.

- The *Tableaux-Ruty*, published by Armand Colin, rue de Mezières, Paris, are similar to the Hoelzel charts mentioned above. There are twelve, each 87 x 61 centimetres. Ready for hanging these cost 2.75 francs each. The topics are: *La Vendange, Les Semailles, Le Feu, L'Hiver, La Maison, La Rivière, La Mer, La Ferme, La Moisson, Le Moulin, La Forêt, La Famille*.
- Another set of 18 pictures, entitled *La Vie Infantine*, by A. Belot and Mlle. Camescasse, is published by Ch. Delagrave, 15 rue Soufflot, Paris. There are at present eighteen pictures (each 63 x 80 centimetres) in six series of three pictures each. The six series are entitled: *L'Ecole, La Maison, La Rue, Le Jardin, Les Champs, L'Eau*. The number of series is being increased. Accompanying them is a *Livre de Lecture: La Vie Infantine*, with conversational suggestions on the pictures. This booklet and a specimen large picture will be sent gratis to all teachers of French in other lands. Each large picture mounted on cloth costs 2.75 francs. For the whole set a special price is made. This same firm publishes many other instructional charts. Send for their catalogue.
- The Librairie Armand Colin, 5 rue de Mezières, Paris, will send on request an illustrated catalogue entitled *Cartes Murales. Tableaux Muraux*. Of particular interest here are the charts of modern French history and geography, the *Leçons de Choses et de Langage*, and the *Tableaux Muraux d'Histoire de la Civilisation Française*. Most of these are reversible, having a chart on each side. They measure 1 meter by 1.20 meters, and cost from 6.50 to 10 francs each.
- The same firm issues 80 colored reproductions of famous paintings, 29 x 22 cm. 1.25 francs each (in quantities 1 franc). A collection of 60 "planches photographiques" of the masterpieces of art sells for 3.50 francs each (in quantities 3 francs). These are 60 x 78 cm. The catalogue gives the full lists of these collections.
- The firm of B. G. Teubner in Leipzig publishes a series of wall pictures of special significance to teachers of French, such as the Rheims Cathedral, the Champs Elysées, Notre Dame, and the Avenue de l'Opéra of Paris, Le Mont St. Michel, Versailles. The prices are from four to six marks according to size. Atkinson, Mentzer & Co., 318 West Washington St., Chicago, are American agents for B. G. Teubner of Leipzig.

- For use in connection with Walter-Ballard's *Beginners' French* (published by Scribner's), which has several conversational pictures inserted in the text, Miss Ballard has published enlargements of several of these pictures for wall use at \$2.75 a set. These wall pictures are three in number (Parlor, Bedroom, Station), measure each 28 x 42 inches, but are not colored. They may be ordered of Miss Anna Woods Ballard, Teachers' College, Columbia University, New York City.
- Three French Wall-Pictures, each 27 x 36 inches by E. A. Pike are published by the Oxford University Press (29-35 West 32nd St., New York City). *Le Verger* is colored, and sells for \$2; *La Rue* and *Le Marché* (uncolored) cost \$1.15 each. The set of three sells for \$4.
- Grammars and readers with conversational drill based upon pictures are quite numerous. Chief among them may be mentioned the Walter-Ballard's *Beginners' French* (Scribner's), and *The Pictorial French Course*, edited by Paul Barbier and published by Little, Brown & Co. of Boston, Mass. (cost 65 cents); 12th edition, 1912.

3. GERMAN.

- As already mentioned under 1, the material there given is intended for use in more than one language, and the Hoelzel charts and other sets are equipped with this in mind.
- The Pictorial German Course* by H. Baumann and published by Little, Brown & Co., Boston, Mass. (price 65 cents), is similar to the *Pictorial French Course* mentioned above.

4. SPANISH.

- Material mentioned above under 1. is also available for instruction in Spanish.
- The Pictorial Spanish Course* by R. Torres, published by Little, Brown & Co. of Boston, Mass. (65 cents), has proved its worth because of its use of pictures for conversational drill.

g. LANTERN SLIDES. STEREOGRAPHS.

The firms that make a business of furnishing slides either in sale or rental are usually supplied with views of all countries. They also deal in lanterns.

Most of the slide dealers have their views also in the form of stereographs. The educational possibilities of stereographs are in many ways superior to those of slides.

1. AMERICAN FIRMS.

- The McIntosh Stereopticon Co., Cor. Randolph St. and Wabash Avenue, Chicago.
- The T. H. McAllister Co., 49 Nassau St., New York City.
- George B. Swain of Ann Arbor, Mich., makes up slides to order, and has been found careful and reasonable.
- Keystone View Co., Meadville, Penn.
- Underwood and Underwood, New York and London.

- H. C. White Co., North Bennington, Vermont. Branches in New York, Chicago, London.
- Williams, Browne and Earle, Philadelphia, Penn.
- Victor Animatograph Co., Davenport, Iowa. (The "Viophticon" series of small slides, 10 cts. each.)
- Anna Bernkopf, 503 W. 121st St., New York City, lists a large number of slides on German history and literature.
- Miss Margaret Sheridan, 89 S. 10th St., Minneapolis, Minn., has the reputation of making good slides to order.
- Prof. F. J. Menger, 1346 Grand Ave., St. Paul, Minn., also manufactures excellent slides.
- A. S. Cooly, Auburndale, Mass.

2. FRENCH FIRMS.

- The Maison E. Mazo, 33 Blvd. St. Martin, and 40 rue Meslay, Paris, is one of the best houses in the world. They issue a very large list of slides and deal in every sort of lantern.
- R. Guilleminot, Boespflug & Co., 22 rue de Châteaudun, Paris.
- Ad. Braun & Co., 18 rue Louis le Grand (near the Opéra), Paris.

3. GERMAN FIRMS.

- K. F. Koehler, Leipzig.
- Ed. Liesegang, Brieffach 124, Düsseldorf.
- Dr. Franz Stoedtner, Universitätsstrasse 3 B., Berlin. This house makes a specialty of views of German art, but also has slides on German literature, country and village life, etc.
- Unger and Hoffmann, Dresden.
- ICA Aktien-Gesellschaft, Dresden.

C. OUTLINE COURSES AND EXAMINATIONS.

—Teachers as yet inexperienced in making out examination questions may receive helpful suggestions from a study of the entrance examination questions set by the several universities of the country. Harvard and other eastern colleges issue from time to time their past entrance examinations as guides to teachers in the preparatory schools. Personal application may also be made to the Registrar of the University of Illinois for similar individual model papers for the first, second, third or fourth High School unit of University entrance. These will be sent as long as the supply of past papers lasts, but the university does not issue them in any book form for general distribution.

—Specimen examination papers may also be found on pages 84-98 of the *Report of the Committee of Twelve of the Modern Language Association of America* (D. C. Heath. 16 cents). This booklet also contains model outline courses leading to these examinations.

—Other outline courses may be found worked out in great detail in *A Four Years' Course in French and Spanish for secondary schools (revised)*, April, 1916 (Administration Bulletins No. 22, 1915, 1916, of the University of California, Berkeley, Cal.). Document No. 82 (Dec. 1, 1916) of the *College Entrance Examination Board* (431 West 117th St., New York City) contains similar outline courses in French, German and Spanish, but with less detail.

Another source of information and guidance for examinations may be found in the "Examination Questions" published by the *College Entrance Examination Board* (431 West 117th St., New York City). These are printed and sold by Ginn & Co. The 1901-1905 volume of *Examination Questions in English, German, French, and Spanish* (97 pages, 30 cents) is now out of print, but might be found second-hand or in libraries. The Second Series for 1906-1910 contains 106 pages, costs 40 cents, and is still available. The Third Series, 1911-1915 (117 pages, 40 cents) has recently been issued.

It is also possible to purchase the annual examination questions of all departments, i.e. sciences, classics, mathematics, history, languages, combined in one volume for 60 cents. Some of the earlier annual volumes are now out of print. 1901 is the first year.

A practical book is C. L. Freeman's *French Examination Papers on the Direct Method*, Oxford University Press, London, New York, etc., 1915; 50 cents. These examinations, as the title indicates, are primarily for those who use the direct method, but should prove useful to other teachers as well.

The newer examination questions issued by the College Entrance Examination Board are gradually adopting questions better fitted for students trained in the Direct Method.

An interesting and suggestive article on *French Examinations* by Albert A. Méras is in the May, 1917, number of *The Modern Language Journal*.

III THE TEACHER OUTSIDE THE CLASS ROOM

There are many ways in which the enthusiastic teacher may help to stimulate the school and the community to an interest in modern languages and literatures. The formation of language clubs, where essays on assigned topics, songs, games and dramas may form the programme, is an excellent supplementary activity to class room work, stimulating alike to teacher and pupils. Below are offered a few suggestions along these lines. Another activity, as yet little developed in this country, is correspondence between American pupils and those in foreign schools. In Europe this has been more developed hitherto than in the United States, so that we must seek counsel of those who have been the pioneers in this matter. Some of the activities suggested for outside the class room may, naturally, be used within the class room according to circumstances and within the discretion of the teacher.

In the *Proceedings of the University of Illinois High School Conference for 1916*, pp. 240-244 (Bulletin No. 17 of the *University of Illinois School of Education*), is a stimulating article by Miss Mabel D. Ricketts entitled "Language Clubs and the Use of the Library therein". The article shows what remarkable results may be obtained by a capable and enthusiastic teacher, even from a small equipment. In *The Modern Language Journal* for March, 1917, is an excellent and practical article called "The German Club" by Caroline M. Young.

A. SONGS.

a. FRENCH.

- Chansons, poésies et jeux français pour les enfants américains* composés et recueillis par Agnes Godfrey Gay, 50 cents. Published by W. R. Jenkins Co., Sixth Ave. at 48th Street, New York City.
- Poèmes et chants de France*, selected and edited by W. M. Daniels and René Travers. 35 cents. D. C. Heath.
- Petit Recueil de Chants français à l'usage de l'école et de la famille*, by H. Carter. Large edition with accompaniments \$1.50; small edition 50 cts. The Oxford University Press.
- Sixty Folk-Songs of France*. Medium Voice. Edited by Julian Tiersot. Oliver Ditson Co., Boston, Mass. 1914.

- French Songs*, compiled by Max Walter and Anna Woods Ballard. Charles Scribner's Sons, 1916. About fifty songs with music. (The Walter Ballard French Series).
- Bouchor—Tiersot *Chants populaires pour les écoles*. 3 vols. Paris (Hachette). Published in several forms, with and without music, and for one, two, or three voices.

b. GERMAN.

- Schauenbergs Allgemeines Deutsches Kommersbuch*. Lahr, Germany (M. Schauenberg). Bound, about \$1.10. (The standard collection of student songs and *volkslieder*; 850 texts with melody only).
- A selection from the Schauenberg *Kommersbuch* is entitled *200 Lieder aus dem Lahrer Kommersbuch mit Klavierbegleitung*. \$1.50. Published also in Lahr.
- Tonger's *Taschen-Album*. Band I. 100 Volkslieder für mittlere Stimmen. Köln (P. J. Tonger) Mk. 1.
- Deutsches Liederbuch für Amerikanische Studenten*. D. C. Heath. 75 cents. About 95 numbers with music.
- German Songs*, compiled by Max Walter and Carl A. Krause. (Charles Scribner's Sons) 50 cts. 62 nos. with music.
- Scherer and Dirks., *Deutsche Lieder*. 78 numbers with music. Cloth. American Book Co. 1913. 25 cents. Good value.
- Liederbuch für deutsche Studenten*, Heidelberg (C. Winter). Flexible linen, pocket size, 1 mark. 250 numbers. This collection gives "the most for the money." All matter objectionable for the young has been removed from the texts.

Other books containing a few songs are:

- Paul V. Bacon's *Im Vaterland*, (20 songs). Allyn & Bacon, Boston.
- Schlenker-Juergensen, *Deutsche Gedichte* (20 songs), Northwestern School Supply Co., Minneapolis.
- Burkhard, *Poems for Memorizing* (among them 10 songs with music) - Henry Holt, New York.

c. SPANISH.

There is a great lack of available collections of Spanish songs suited to clubs of American students. With the growing demand for Spanish, some one should fill this need soon. The only titles that are available are:

- Modern Spanish Lyrics*, by E. C. Hills and S. J. Morley, \$1.25. Henry Holt. 1913. This has the music of ten songs.
- Elementary Spanish Reader*, by A. M. Espinosa. 90 cts. Benj. H. Sanborn. 1916. With music of four folk songs.

B. GAMES.

- A resourceful teacher can readily adapt English or American games to the atmosphere of the language desired. An excellent book full of valuable suggestions is Jessie Hubbell Bancroft's *Games for the Playground, Home, School and Gymnasium*. Illustrated. New York (Macmillan) \$1.50.

- Of smaller compass is Mari Ruef Hofer's *Popular Folk Games and Dances, for Playground, Vacation and Schoolroom use*. 56 pages. Chicago (A. Flanagan) 1907.

a. FRENCH.

- The book by Gaston Vuillier, *Plaisirs et Jeux*, Paris 1902 (Rothschild), describes many French games for old and young. It is illustrated and has chapters on games of past ages.
- Other books of value are Eugène Rolland, *Rimes et jeux de l'enfance*, Paris (Maisonnette & Cie 1883), and Mme. Marguerite DuParquet *Jeux et exercices des jeunes filles*. 2nd edition. Paris, 1860. 316 pages. The following games are for sale by William R. Jenkins Co., Sixth Ave. at 48th St., New York City:
- French Construction Game. 50 cts.
- French Conversation Cards. 50 cts.
- Divided Proverbs (English proverbs and their equivalents in German, French and Spanish). 50 cts.
- Jeu de "Connaissez-vous Paris?". 75 cts.
- Citations des auteurs français. 75 cts.
- Jeu des Académiciens. 75 cts.
- Jeu illustré "Fleurs, plantes, animaux et objets divers." 50 cts.
- The Table Game. 75 cts.

b. GERMAN.

- Many games are suggested in Caroline M. Young's article on "The German Club" in the *Modern Language Journal* for March, 1917.
- Das deutsche Literatur-Spiel*, a German game of authors, by D. F. S. Zoller. For sale by W. R. Jenkins Co., Sixth Ave. at 48th St., New York. 75 cts.
- Various games, and dolls dressed to illustrate the costumes of European lands may be obtained from the Spielwarenhaus of Richard Zeumer, Dresden (Schlossstrasse 22). Among these games may be mentioned "Das Handwerker-Quartett-Spiel"; "Das Tierreich-Quartett-Spiel"; and "Neues Frag-und Antwort-Spiel".
- Roth's Table Game in German. 75 cts. W. R. Jenkins, Sixth Ave. at 48th St., New York.
- Divided Proverbs (see above under French).
- A. C. McClurg, 218-224 So. Wabash Ave., Chicago, are importers of many German parlor games. Some of these may seem too juvenile for high school pupils, but others are not without value, such as "Märchenlotto" (\$1.25); "Wer will lachen?" (75 cts.); "Das Märchenschloss" (\$1.35); "Hans Kasperls Wanderschaft" (\$1.35), etc.
- Some suggestions for games are in "Easy German Conversation" by Allen and Phillipson. Henry Holt & Co. 1914.
- A useful little pamphlet *German Games, and German and English Books* has just been issued by the German Department of the State Normal

School, Emporia, Kansas. It is however already out of print. A revised edition with additional material will be issued in a few months. Address Lillian Dudley, Head of the Modern Language Department.

c. SPANISH.

—Divided proverbs (see above under French).

C. SCHOOL THEATRICALS.

a. GENERAL REMARKS.

- For suggestions as to plays that have proved excellent for high school clubs, write either A. C. McClurg & Co., 218 Wabash Ave., Chicago; E. Stechert & Co., 155 West 25th St., New York; or W. R. Jenkins & Co., Sixth Ave. at 48th St., New York. Such sets as Jenkins' "Théâtre pour la Jeunesse" and "Théâtre Contemporain", or the "French Plays for Girls" and "Theatre for Young Folks" of McClurg's catalogue are excellent.
- The *Drama League of America* (736 Marquette Building, Chicago) has published in 1915 a pamphlet: *Plays for Children*, 25 cents. In this list some of the titles are by French and German authors. The *Drama League* also issued in 1915 a pamphlet, *Plays for Amateurs*, and in 1916 another: *A List of Plays for High School and College Productions*. Each of these lists costs 25 cents. Many of the plays listed are by foreign authors, and would aid in the choice, although none are in a foreign language. Moreover the introductory matter in these pamphlets is of great practical value to any teacher engaging in dramatics.
- In this connection may be mentioned the books of Jean Blaise: *Comment monter et jouer une pièce en famille, à l'école, dans les sociétés, dans le monde*. 50 cents. (1912); *Récits à dire et comment les dire*. \$1.15. (1913) and *Pour bien lire et bien réciter* (1909). These books are published by A. Colin, Paris. Another book of value is *La Comédie de Salon. Comment on la monte et comment on la joue*, by R. Manuel. 75 cents. (1907) (Léon Chailley, 8 rue St. Joseph). Among other excellent features this book has a list of good one-act comedies.
- Unless histrionic conditions are unusually favorable, it is wisest not to attempt a play of more than one or two acts. Longer plays are almost always prove too heavy and to lay too great a burden upon the teacher who has to drill the cast.
- The modern language clubs of the universities not infrequently produce dramatic plays. Requests for information will doubtless be welcomed. The oldest dramatic clubs of this character are the *Cercles Français* of Harvard (since 1888) and Columbia. In the middle west Kansas has a place of honor with a record of fifteen annual productions by the student body in French and Spanish. An interesting history of school dramatics is given by L. V. Gofflot, *Le Théâtre au Collège du Moyen Age à nos jours bibliographie et appendices. Le Cercle Français de l'Université Harvard*. Illustrated. Preface by Jules Claretie, Paris (Champion) 1907.

Costumes and Wigs: The following are reliable firms:

- Costumes: Fritz Schoulz & Co., 19 West Lake St., Chicago, Ill.; M. J. Clarke, 718 Locust St., St. Louis, Mo.
- Costumes and Wigs: H. Reuter, 45 Juneau Ave., Milwaukee, Wis.; New York Costume Co., 188 North State St., Chicago, Ill.
- Wigs: Funk & Co., North American Bldg., Chicago, Ill.

b. FRENCH.

- Send to the Secretary of the *Alliance Française*, 200 Fifth Ave., New York, for their annual "Bulletin Officiel". There in the reports from the various clubs and groups of the *Alliance Française* one may find valuable suggestions of French plays that have been performed successfully in these clubs.

The following books would aid in the choice of a play:

- Vesco, E., *Comédies et Saynètes (pour la jeunesse)*. Paris (A. Colin) 1904. 3.50 francs.
- Bellier, Mme. (Marie Klecker), *Théâtre du jeune âge* consisting of three volumes of *Comédies enfantines et saynètes* (with illustrations by Marcel de Fonrémis) and of one volume, *Les contes de Fée à la Scène*. Each volume 3.50 francs. Paris (Société d'éditions littéraires et artistiques).
- The *Librairie Bricon & Lesot*, Paris (6e), 10 rue de l'Épéron, makes a specialty of dramatic publications for amateur acting. Send for their catalogue of *comédies, saynètes, monologues, scènes comiques, etc.*

The following are merely suggestions of plays that have proved successful in actual performance by school or college French clubs. In many cases there are also other editions than those indicated below:

- Moinaux, Jules, *Les Deux Sourds*. 1 act. (D. C. Heath) 1906.
- Legouvé and Labiche. *La Cigale chez les Fourmis*, 1 act (American Book Co.).
- Labiche and Delacour. *Les Petits Oiseaux*. 3 acts (Henry Holt).
- Labiche. *La Lettre Chargée*. 1 act (W. R. Jenkins, New York).
- Labiche, *La Grammaire*. 1 act. (D. C. Heath).
- Madame de Girardin, *La Joie fait peur*. 1 act (Scott, Foresman & Co.) 1900.
- Labiche and Martin, *La Poudre aux Yeux*. 2 acts (D. C. Heath).
- Labiche and Martin, *Le Voyage de Monsieur Perrichon*. 4 acts (D. C. Heath).
- Labiche and Martin, *Moi*. 3 acts. (Allyn and Bacon). This firm publishes the "Ça ira" series of plays, many of which are excellent for presentation.
- Labiche and Delacour, *La Cagnotte*. 5 acts (D. C. Heath).
- Scribe and Legouvé, *Bataille de Dames ou un Duel en Amour*. 3 acts (D. C. Heath).
- Sandeau, Jules, *Mademoiselle de la Seiglière*. 4 acts (D. C. Heath).
- Augier and Sandeau, *La Pierre de Touche*. 5 acts. (Ginn & Co.).
- Augier and Sandeau, *Le Gendre de Monsieur Poirier*. 4 acts. (D. C. Heath).

- Meilhac and Halévy, *L'Été de la Saint-Martin*. (Allyn and Bacon).
- Crémieux and Decourcelle, *L'Abbé Constantin*. 3 acts. A pleasing dramatization of Halévy's celebrated story. (American Book Co.).
- Tristan Bernard, *L'anglais tel qu'on le parle*. 1 act. Paris (Librairie Théâtrale) 1900.
- Molière. Nearly all the prose comedies by Molière have been produced and occasionally a more ambitious club has given a comedy in verse. The Cercle Français of Harvard has been the pioneer in this work, and has revived several other classic plays, notably Cyrano de Bergerac's *Le Pédant joué* in 1899 and Corneille's *Le Menteur* in 1902. In 1897 students and faculty members of Harvard performed Racine's *Athalie* in admirable manner. A stage-edition of *Athalie* prepared by F. C. de Sumichrast was published by Macmillan 1902. 60 cents.
- Other plays may be found in the catalogues of W. R. Jenkins and A. C. McClurg.

c. GERMAN.

- Many suggestions for German plays are given in F. Diederich's "Theaterstücke für Dilettantenbühnen" (50 pff. Flugschrift No. 37 of the Dürerbund, published by Georg D. W. Callwey, Munich).
 - The Reclam *Universal-Bibliothek* published by Ph. Reclam, Leipzig, has a list of "100 Einaktige Lustspiele", from which a choice may readily be made. These cost 5 cts. each. A catalogue will be sent gratis.
 - Buchheim, *Short German Plays* for reading and acting. Oxford University Press. 1st series, 5 plays, 50 cents; 2nd series, 6 plays, 60 cents. Of these the following may be secured separately for 15 cents each. *Eigensinn*; *Wie man sich bildet*; *Der ungebetene Gast*.
 - Benedix, *Haustheater*. 2 vols. Leipzig (J. J. Weber) 1891. An excellent collection containing 43 one-act plays and 3 two-act plays. Some have been republished by American firms and are thus readily available: Heath & Co. have *Nein*; *Der Prozess*; *Die Hochzeitsreise*; *Günstige Vorzeichen*; *Plautus und Terenz*; *Sonntagsjäger*. Holt & Co. have *Der Prozess*; *Eigensinn*; *Der Dritte*.
- The following plays of one or more acts have proved excellent. These cost from 25 to 40 cents each.
- Elz, *Er ist nicht eifersüchtig*. D. C. Heath & Co.
 - Wilhelmi, *Einer muss heiraten*. D. C. Heath & Co., also Henry Holt & Co.
 - Fulda, *Unter vier Augen*. Henry Holt & Co.
 - Rosen, *Ein Knöpf*. Henry Holt & Co.
 - Moser, *Der Schimmel*. Henry Holt & Co.
 - Manley and Allen, *Four German Comedies*. Rosen, *Ein Knopf*. Moser, *Ein amerikanisches Duell*. Müller, *Im Wartesaal erster Klasse*. Pohl, *Die Schulreiterin*. Ginn & Co.
 - Moser, *Der Bibliothekar*. D. C. Heath & Co.
 - Wichert, *Als verlobte empfehlen sich*. D. C. Heath & Co.
 - Ernst, *Flachsmann als Erzieher*. Ginn & Co.
- More ambitious plays have been given at many universities. For instance

Illinois has presented Lessing's *Minna von Barnhelm*; von Kleist's, *Der zerbrochene Krug*; Fulda's *Der Dummkopf*; Meyer-Foerster's *Alt Heidelberg*, and others.

d. SPANISH.

The list of available Spanish plays is not long, as yet, but there will doubtless soon be an increased publication of such material, to meet the growing demand. The following have been given with success:

—*Después de la Lluvia el Sol*. 1 act. R. D. Cortina Co. (1600 Broadway, New York) 1914.

—*Tres Comedias Modernas*. 1 act each. Edited by F. W. Morrison. Henry Holt & Co. 1909. These are: *La Muela del Juicio* by M. R. Carrión; *Las Solteronas* by Luis Cocat y Heliodoro Criado; *Los Pantalones* by Mariano Barranco.

—*Zaragüeta* by Miguel Ramos Carrión y Vital Aza., 2 acts. Edited by G. C. Howland. Silver, Burdett & Co. 1901.

—Other plays that have been given at the University of Kansas are: *El Sueño dorado* by Carrión and Aza; *El Señor Cura* by Vital Aza.

The W. R. Jenkins Company (Sixth Avenue at 48th St., New York) publish under the title *Teatro Español* the following:

La Independencia, by Don Manuel Breton de los Herreros. 4 acts. A bright, lively comedy.

El Desdén con el Desdén, by Don Agustin Moreto y Cabana. 3 acts. Charming but difficult.

Un Drama Nuevo, by Don Joaquin Estébanez. 3 acts. A powerful tragedy requiring marked histrionic talent.

—*Sábado sin sol* by Alvarez Quintero, in Espinosa's *Elementary Spanish Reader*. Benj. H. Sanborn & Co. This is a playlet. The same firm announces *Dos Comedias Contemporáneas*, to be edited by Caroline B. Bourland.

D. READING OUTSIDE THE CLASS ROOM.

Attention is called to the article by Mr. A. Kenngott, entitled "Outside Reading in Modern-Language Instruction". The article may be found in *THE SCHOOL REVIEW* for June, 1914 (Vol. XXII, No. 6), pp. 385-390. Mr. Kenngott describes the successful methods he has employed to stimulate a real appreciation of wider reading among his pupils. The valuable article concludes with the list of books in French and German which have proved best adapted to this outside reading. Suggestions as to what books are best for boys and what are best for girls, together with recommendations as to the proper year in which to use each book, accompany the list. Mr. Kenngott has since written an interesting article in Vol. XVII, No. 3 of the *Monatshefte für deutsche Sprache und Pädagogik*, entitled "Outside Reading as an important factor in Modern-Language In-

struction''. This article emphasizes the necessity of choosing reading within the sphere of interest of the pupil, and offers lists of books in German graded with this idea in mind. One list is for boys, the other for girls.

In this connection the following books are of value: *Was sollen unsere Jungen lesen?* Fritz Johanneson, Berlin (Weidmann'sche Buchhandlung); *Musterkatalog für Volks- und Jugendbibliotheken*, Leipzig (Gemeinnütziger Verein zu Dresden); *Führer durch die Jugendliteratur*, Brechenmacher, Stuttgart (Katholischer Schulverein).

—R. P. Zimmerman has prepared an excellent list of books for outside reading in German, the total cost being only \$21. The list may be found on pp. 235-238 of the *Proceedings of the Illinois High School Conference* for 1916 (University of Illinois School of Education, Bulletin No. 17).

—The catalogues of the American publishers of books in foreign languages, Ginn, Holt, Heath, the American Book Co., etc., usually list and describe their material in such a way as to aid the teacher in the choice of works for outside reading. In this connection the French sets published by Wm. R. Jenkins (Sixth Ave. and 48th St., New York City) and called *Théâtre Contemporain*, *Théâtre pour la Jeunesse*, *Contes Choisis* and *Romans Choisis* are especially worthy of attention. The same publishers issue similar Spanish sets known as *Novelas Escogidas*, *Cuentos Selectos*, and *Teatro Español*. The *Ca Ira* series of plays published by Allyn & Bacon deserve attention also.

—The plays suggested above under "School Theatricals" are also excellent material for outside reading, if wisely assigned.

E. INTERNATIONAL CORRESPONDENCE BETWEEN SCHOOLS.

The best résumé of the efforts to establish this interesting and profitable activity prior to 1900 may be found in Paul Mieille's *La Correspondance interscolaire et les correspondances internationales*, 54 pages. Tarbes, France, 1900. A more available summary may be found on page 26 of the admirable and useful *Report of the Committee of Twelve of the Modern Language Association of America*, a little booklet which should be in the hands of every teacher of modern languages (published by D. C. Heath & Co. for 16 cents).

In Germany this international correspondence is handled through the *Deutsche Zentralstelle für den Schülerbriefwechsel* which is in charge of Herrn Studienrat Dr. M. K. A. Martin Hartmann, Leipzig-Gohlis, Fechnerstrasse 6, to whom enquiries may be sent.

In France the following may be addressed: For correspondence between young men: Prof. A. Mouchet, 16 rue de St. Guillaume,nières (près Paris). For correspondence between young women: Miss E. Williams, professeur aux Ecoles de Sèvres et de Fontenay, rue de la Sorbonne, Paris, or Mme. Rossignol, 117 rue Notre Dame des Champs, Paris. More recent experience is that of Mr. Arthur Gibbon Bovée, Head of the Department of French of the University High School of the University of Chicago. A correspondence between men of the boys of the University High School of Chicago and ten boys of the Lycée Carnot of Paris was begun auspiciously. Unfortunately the great European war interrupted this correspondence, and it will be some time before similar work can be undertaken with success. It has been difficult to sustain such activity even in times of peace, as the efforts of committees of the Modern Language Association of America show. See for these earlier reports the publications of the Association:

Vol. xv. Appendix I, pp. xiii-xviii.

Vol. xvi, pp. viii-xi.

Vol. xvii, pp. xxxii-xxxiv.

Vol. xviii, pp. xxiii-xxv.

Vol. xix, pp. xiii-xv.

Vol. xx, p. viii.

The subject has also been discussed in *Éducation*, Vol. xix, p. 63, and in *Modern Language Notes*, Vol. xiii, p. 95 and Vol. xiv, p. 48.

F. SCHOOL LIBRARIES.

Every ambitious school should endeavor to build up gradually a school library and to encourage the pupils to use it. Great care should be given to the selection of the books, particularly if the funds are not large. Such a library might well have a goodly number of the best books of travel, several of the best dictionaries, one or two illustrated periodicals in each of the languages studied, and several histories of each literature. It is hoped that the lists given in preceding pages of this bulletin may prove helpful in the wise choice of this material.

This library should also contain the books necessary for outside reading. In this connection attention is called to the lists of Mr. A. Hennigott noted above and also to the section called "The Library" Professor Carl Schlenker's *Bulletin for Teachers of German* (University of Minnesota, 1916). Here are found, in addition to good counsel of a general sort, more specific suggestions for a select library of German books.

Such libraries as can afford but a minimum amount are referred

to the lists for French and Spanish prepared by Professor John D. Fitz-Gerald and published on pp. 293-295 of the *Proceedings of the High School Conference of 1915* (Bulletin No. 15 of the University of Illinois School of Education). Professor H. A. Hollister, High School Visitor of the University of Illinois, edited in April, 1917, a bulletin treating of minimum library equipments for all departments of the high and other secondary schools. This publication is called "*Bulletin on High School Libraries, based on Recommendations made to the High School Conference*. Issued from the High School Visitor's Office (Vol. XIV No. 33 of the University of Illinois Bulletin)." While these minimum suggestions serve well as a beginning, no school should be content to remain long on such a limited basis.

The faculty of the University High School of Chicago compiled *A List of Books suited to a High School Library*, which was published by the United States Bureau of Education as Bulletin No. 35 for 1913. Price 15 cents. This list includes all departments of instruction.

See also the literature cited above under "D. Reading outside the Class Room".

APPENDIX

ADDRESSES OF AMERICAN DEALERS, PUBLISHERS, AND IMPORTERS MENTIONED IN THIS BULLETIN.

- Alliance Française, 200 Fifth Ave., New York.
- American Book Co., 100 Washington Square, New York; 330 E. 22nd St., Chicago.
- American Photographic Publishing Co., 221 Columbus Ave., Boston, Mass.
- Appleton: Daniel Appleton & Co., 29-35 West 32nd St., New York; 533 S. Wabash Ave., Chicago.
- Atkinson, Mentzer & Co., 318 W. Washington St., Chicago; 30 W. 36th St., New York. United States agents of B. G. Teubner of Leipzig.
- Baker & Taylor Co., 354 Fourth Ave., at 26th St., New York. (See Doubleday, Page & Co.)
- Blakiston: P. Blakiston's Sons & Co., 1012 Walnut St., Philadelphia.
- Boston Book Co., 89-91 Francis St., Boston.
- Brentano's, Fifth Ave., and 27th St., New York.
- Burt: A. L. Burt Co., 114-120 E. 23rd St., New York.
- Cambridge University Press, 2 West 45th St., New York.
- Caproni: P. P. Caproni & Brother, 1914-1920 Washington St., Boston.
- Carnegie Endowment for the Advancement of Teaching. 542 Fifth Ave., New York.
- Cassell & Co., See Funk & Wagnalls Co.
- Century: The Century Co., 353 Fourth Ave., New York.
- Chicago: University of Chicago Press, 58th St. and Ellis Ave., Chicago.
- College Entrance Examination Board, 431 West 117th St., New York.
- Collier: P. F. Collier & Son, 416-430 West 13th St., New York.
- Columbia University Press: Lemcke & Buechner, Agents. 30-32 West 27th St., New York.
- Crowell: T. Y. Crowell Co., 426-428 West Broadway, New York.
- Ditson: Oliver Ditson Co., 150 Tremont St., Boston.
- Dodd, Mead & Co., Fourth Ave. and 30th St., New York.
- Doran: George H. Doran Co., 38 West 32nd St., New York.
- Doubleday, Page & Co., Garden City, New York. Acquired the business of the McClure Co., and the Baker & Taylor Co.
- Drama League of America, 736 Marquette Bldg., Chicago.
- Duffield & Co., 211 West 33rd St., New York.
- Dutton: E. P. Dutton & Co., 681 Fifth Ave., New York.
- France-America Committee, 2 Rector St., New York.
- Funk & Wagnalls Co., 354-360 Fourth Ave., New York. Acquired the publications of Cassell & Co.

- Ginn & Co., 29 Beacon St., Boston; 2301-2311 Prairie Ave., Chicago.
- Government Printing Office, Washington, D. C.
- Harper & Brothers, Franklin Square, New York.
- Harvard University Press, 2 University Hall, Cambridge, Mass. Selling agents are G. E. Stechert & Co.
- Heath: D. C. Heath & Co., 50 Beacon St., Boston; 231 West 39th St., New York; 1815 Prairie Ave., Chicago.
- Hinds, Noble & Eldredge, 30 Irving Place, New York; 1722 Arch St., Philadelphia.
- Holt: Henry Holt & Co., 34 West 33rd St., New York; 2451 Prairie Ave., Chicago.
- Houghton Mifflin Co., 4 Park Street, Boston; 16 E. 40th St., New York; 623 So. Wabash Ave., Chicago.
- International News Co., 83 Duane St., New York.
- Jenkins: William R. Jenkins Co., 851-853 Sixth Avenue, at 48th St., New York.
- Johns Hopkins Press, Baltimore, Maryland.
- Lane: John Lane Co., 116-120 West 32nd St., New York.
- Languages Publishing Co., 143 W. 47th St., New York.
- Lemcke & Buechner, 30-32 W. 27th St., New York.
- Lippincott: J. B. Lippincott Co., East Washington Square, Philadelphia.
- Little, Brown & Co., 34 Beacon St., Boston.
- Longmans, Green & Co., 443-449 Fourth Ave., cor 30th St., New York; Prairie Ave. and 25th St., Chicago.
- Macmillan: The Macmillan Co., 66 Fifth Ave., New York; Prairie Ave. and 25th St., Chicago.
- McClurg: A. C. McClurg & Co., 218 So. Wabash Ave., Chicago.
- McDevitt-Wilson, Hudson Terminal Bldg., New York.
- McGraw Publishing Co. Now the McGraw-Hill Book Co., 239 W. 39th St., New York.
- McKinley Publishing Co., 1619 Ranstead St., Philadelphia.
- New York University Book Store, 32 Waverly Pl., New York.
- Nystrom: A. J. Nystrom & Co., 623 So. Wabash Ave., Chicago.
- Oxford University Press, American Branch, 35 West 32nd St., New York.
- Page Co., 53 Beacon St., Boston.
- Pitman: Sir Isaac Pitman & Sons, 2-6 West 45th St., New York.
- Putnam: G. P. Putnam's Sons, Putnam Bldg., 2-6 West 45th St., New York.
- Rand-McNally & Co., Rand McNally Bldg., Chicago; 40 East 22nd St., New York; 455 S. Olive St., Los Angeles, Cal.
- Ritter & Flebbe, 120 Boylston St., Boston.
- Sanborn: B. H. Sanborn & Co., 50 Beacon St., Boston; 623 S. Wabash Ave., Chicago; 24 West 29th St., New York.
- Scott, Foresman & Co., 623 S. Wabash Ave., Chicago; 460 Fourth Ave., New York.
- Schoenhof Book Co., 128 Tremont St., Boston.

- Scribner: Charles Scribner's Sons, 608 S. Dearborn St., Chicago; 597 Fifth Ave., New York.
- Stechert: G. E. Stechert & Co., Importers, 151-155 West 25th St., New York. Selling agents for Harvard University Publications.
- Stokes: F. A. Stokes Co., 443-449 Fourth Ave., New York.
- Warne: Frederick Warne & Co., 12 East 33rd St., New York.
- Winston: John C. Winston Co., 1006-1016 Arch St., Philadelphia.
- World Book Co., Park Hill, Yonkers-on-Hudson, N. Y.; 6 N. Michigan Ave., Chicago.
- Yale University Press, 209 Elm St., New Haven, Conn.; 225 Fifth Ave., New York.

ADDENDA

Word has just been received from Mr. Robert Morris Pierce of the organization in May, 1917, of *The Phonetic Society* whose object "shall be the promotion of the science of phonetics in all its aspects and applications." The annual membership fee is \$2. Address the Secretary-Treasurer, Robert Morris Pierce, 143 Wst 47th Street, New York City. The President is George F. G. Scott, Yonkers, New York; the Vice-President, Prof. George Philip Krapp, Columbia University.

An article of interest by Prof. James Geddes entitled *Applied General Phonetics for Missionaries and Students of Languages* appeared in two instalments in *The Volta Review* for January and May, 1917. In this article the contributions of American scholarship to the science of theoretical and applied phonetics are listed and described. *The Volta Review* is published monthly at 35th Street and Volta Place, Washington, D. C.

A phonetic table for Spanish is now issued by Robert Morris Pierce at 143 West 47th Street, New York City. It is called "Chart of the Spanish Alphabet," and may be had either in a small size or in a larger form for wall use. Mr. Pierce plans to issue similar charts for all the chief languages of the world.

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SCHOOL OF EDUCATION

BULLETIN NO. 19

**Issued From The
HIGH SCHOOL VISITOR'S OFFICE**

PROCEEDINGS OF THE HIGH SCHOOL CONFERENCE OF NOVEMBER 22, 23 and 24, 1917

**Compiled by H. A. Hollister. The
Sections Under Part II Edited by
their respective Secretaries**

PUBLISHED BY THE UNIVERSITY OF ILLINOIS

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STATISTICS OF THE HIGH SCHOOL CONFERENCE, 1916-17

	1916	1
Total Attendance	1600	1
Total No. registered	1562	1
Total registration exclusive of the University	1438	1
No. of Public High Schools represented	323	1
No. of High School teachers	1326	1
No. representative of Colleges and Academies	49	
No. representative of Normal Schools	31	
No. representative of School Boards	5	
No. of County Superintendents	14	
No. representative of book houses, etc.	18	
No. of High School teachers whose expenses were paid in full	230	1
No. of High School teachers whose expenses were paid in part	253	4
No. of High Schools represented by delegates whose expenses were paid in full or in part	182	1
Following is the registration by sections:		
Administrative	244	1
Agriculture	41	
Biology	74	
Classics	118	1
Commercial	66	
County Superintendents and Village Principals	38	
Domestic Science	86	1
English	244	1
Geography	16	
Manual Arts	53	
Mathematics	121	1
Modern Language	91	
Music	42	
Physical Education		
Physical Science	66	
Social Science	117	
No section given	145	
	1562	1

PART I

GENERAL SESSIONS

1. Thursday Evening.

The Thursday evening session of the 1917 High School Conference was opened with a concert by the University Band with Director A. A. Harding as leader. This concert was very much enjoyed by an audience larger than usual for the first session.

Professor W. W. Charters of the School of Education presided.

After some announcements the Director of the Conference, Professor H. A. Hollister, read a brief message for the year which was as follows:

THE CALL OF THE HOUR TO THE HIGH SCHOOLS.

We are in the midst of a great world revolution. Many of our cherished theories of modern civilization are already brushed aside. Long accepted social and industrial conditions have taken on new and unrecognizable forms. The Federal Government is thrusting its hands into our pockets to seize a large and ever increasing portion of the results of our daily toil. Even our food is beginning to be doled out to us.

But greater far than all this is the call upon our manhood to devote itself to the grim business of war; and upon our womanhood to prepare to suffer silently and to sacrifice in the name of freedom, while it toils to provide, in the name of mercy, for the care of the sick and wounded of our brave boys at the front when they shall close in battle.

And how does this concern us in our peaceful vocations as teachers and directors of the work of our high schools? Many a principal could say it has already cost us several of our best teachers. Often this has included the principal as well. The supply of qualified teachers has thus been perceptibly diminished. The next three months will doubtless witness another reduction in our numbers. This affects not the men alone. Many young women have turned from the teacher's desk to Red Cross service or as special workers in various civil branches at home, as in the food conservation campaign.

The finances of our schools are also affected. All school supplies are advanced in cost; by the time the extra costs due to special taxes are added the cost of building materials will be almost or quite

prohibitive under the present scheme of taxation for school support. The relative scarcity of labor in the building trades will still further increase the difficulties of those who need to build. Yet there is little likelihood of any change for the better during the next five years. The advance in the cost of living renders some advance in teachers' salaries imperative. The situation calls for the practice of the strictest economy in all materials essential to the work of the schools.

But beyond all these material considerations is the effect of the war situation and what is to come out of it upon the actual instructional work of the high schools. In the first place let us hope that it will mean that all this work will be approached and carried forward in a much more serious fashion than ever before. This is the first time in the history of the American high school that it has been called upon to face a serious war situation, to search itself thoroughly with a view to eliminating all waste of materials, time, or youthful opportunity. Yet the present situation demands such a searching if we are to prove ourselves loyal Americans and able to respond heroically to this new demand. No truly American teacher can absolve himself or herself from this call to sacrifice. Extra duties, readjusted schedules, are likely to result. It is in this manner more than in any other way, perhaps, that we may be able to do our part in our country's hour of extreme need.

Let us consider our position. We are to be held to account for the manner in which we prepare the youth under our teaching to meet the problems which the months and probably years of conflict will present. Our high school boys will be needed in field and shop. Many of our girls will likewise be called upon to fill places made vacant by the transfer of young women to places usually filled by men. What are the high schools going to do to help these out-of-school boys and girls to keep up their studies? Surely some means should be found by which to provide for such emergencies, for they will all have need for such education, at least, as the high school can offer. The little experience in sending the boys out to the farms last spring is only an inkling of the demands that may come. There is need of serious forethought and planning here.

We must also prepare our pupils to grapple with the still greater problems which must inevitably confront this nation at the close of the present conflict. Possibly many of these now in our high schools may yet be called to make the supreme sacrifice for the cause of human freedom. What are we to give them that shall stand them in good stead in the hour when they may be called to "carry on" either at the front or in the reconstruction period after peace? May we not well pause and think?

Two possible outcomes of the war present themselves: Defeat or victory. You and I believe it will be victory,—a glorious achievement in the name of justice, freedom, and lasting peace. If the fortunes of war, backed by obstructionists and profiteers, should bring defeat, the least that we can hope for the future would be a large standing army, a greatly increased navy, and a strong and well equipped force of aerial fighters. This would turn millions of our young men permanently from the productive industries and from business and professional pursuits, themselves to be supported by those remaining in civil life. It would necessitate also the maintenance of large constructive agencies, consuming a host of industrial workers and untold quantities of material supplies,—these last also to be furnished from the general output of field and forest and mine.

Thus there would be laid upon the producing forces of the country a burden double that of the present time, without counting the heavy burden of tax for war cost and possible indemnities.

In case of victory, which, let us believe, is the only possible outcome, the European world will be impoverished as to both men and capital. The success of the cause of democracy will call for a world leadership in institutional reconstruction for which no nation, unless it be the United States, will be even reasonably prepared. Now it need hardly be said that upon our high schools chiefly, as the highest schools of the masses, will devolve the major part of the burden of preparing to meet these new demands which a complete victory for our allied forces will surely bring to us.

Are we ready to meet this demand? If we fail, or neglect to make suitable preparation, then our boys will have largely fought in vain, our sacrifices will have been in vain. In view of such an outlook what ought such an organization as this conference to undertake to do? It is the largest and most representative body of high school teachers that meets anywhere. Its workings are in your hands.

We need to take account of our resources; to take steps to conserve the best of our teaching forces that recruiting and the draft may leave to the schools; to husband jealously, yet not with a wasteful economy, our financial resources; to scan our materials of education with reference to the tasks to be met, eliminating non-essentials and mere experiments from our curricula, and teaching the things that are essential with a zeal such as we have scarcely realized as possible heretofore. This in order to train up leaders and workers for the greatest enterprise that ever fell to any nation. We need to send more to our colleges and universities to prepare for that higher expert service which such a situation will make indispensable.

We need then to mobilize our forces, to drill incessantly, even

as our fighting men do, in order that we may not fail in this great task set for us behind the firing lines and trenches. We need to lay aside all petty strifes and differences, all low and selfish motives.

We need some coordinating body to help to win well-trained men and women to the teaching forces of the state and to see that they are located where most needed. Boards of education are often at a loss to know where to go to get teachers. A regular exchange bureau for this purpose might do much to improve the situation. There are doubtless many, including some married women, who would gladly serve if they knew of openings; and most of you might be able to locate at least one such person each, thus rendering the schools a great service.

For our young men and women out of school we might well organize special courses for night work, or for a half-day session each week, or for correspondence work. All such conserving activities will be needed if we are to meet the educational emergencies of the day.

We should survey with care our educational organization, our laws, especially as they affect high schools. Soon we are to have a vote by which the people may call a convention to revise our constitution. Are there not here some matters affecting education which concern us? Might we not better have a State Board with power to choose a commissioner of education from among the ablest educational experts of the nation?

Would not such a plan make possible a better central organization, with departmental experts to take care of the widely varying interests in our high schools which need to be unified and strengthened for the state as a whole? It should be so possible to unify this work on a sound basis of efficiency as to care for all relations of our high schools without duplication of effort or conflict of interests.

This is not suggested in any spirit of criticism. I believe it to be true that no state under an organization similar to our own has made a better showing than Illinois. But the march of progress points to a different plan of organization by which Illinois may secure the best experts the country affords for carrying forward this great work of education.

Even as the methods and materials used and the disposition of forces of a modern army differ radically from those existing prior to 1914, so may it not be possible that we, in our educational organization, shall find it desirable to adapt the corresponding factors in education to the new and rapidly changing social and industrial conditions now arising in the world?

As we separate tomorrow into our various groups for study of

problems more individual, and as we listen to the problems presented at our succeeding general sessions, let us think on these things. Let us consider what our own department of high school instruction or administration may do to help meet the needs of the hour as well as the demands which the future must surely bring. As director of this Conference I am deeply impressed with its still latent possibilities. May we not find a way somehow to organize for an educational drive in Illinois with the increased efficiency of our high schools as our objective? The hour seems ripe for action. The nation, the bleeding, groaning, famine-stricken world, are calling us. Should we not provide some working organization from this body which, in cooperation with others, might aid in suggesting and formulating plans to meet our emergencies? What response are we, as high school men and women, to give to the call that clearly comes to us?

Hon. H. S. Magill was then presented and gave a very eloquent and instructive address on The Illinois Centennial Celebration of which he is the Director. He portrayed vividly the progress which Illinois has made in its first century of history. He discussed somewhat in detail the possibilities of a state-wide celebration in which every community should participate. His recommendations as to the utilizing of local materials, the recalling of events, of heroic deeds, of important changes in each community should find a ready response from all parts of the state.

2. Friday Evening.

It was found necessary to change the program, exchanging places with the Friday evening and Saturday morning programs as announced. This was in order to secure Hon. Medill McCormick for an address. He was not available for Saturday morning. Dean Eugene Davenport presided at this meeting.

After an organ recital of half an hour by Dr. J. Lawrence Erb the address of the evening was given by Hon. Medill McCormick, Congressman at large for Illinois, who had just returned from an extensive visit to the European battle fronts. Mr. McCormick spoke as follows to the full house which greeted him:

I had heard often enough that this war was a war not of armies, but of peoples, but I had to see with my own eyes before I understood how the souls and bodies of whole nations were given to the conflict.

It is beyond my prosaic powers to picture to you as it should be pictured, the struggle which absorbs the energies of the democratic peoples of western Europe. I would have you conceive at the outset that four-fifths of the men between twenty and forty years of age are not to be found in their ordinary vocations of labor, or recreation. They are uniformed, the great majority of them in the zone of the armies, a few on guard duty or at administrative posts, a very considerable number of them at home on

short leave, where they are everywhere in evidence with their wives, their mothers, their sisters, their sweethearts, in the parks, on the boulevards, at the play, in the restaurants. Four-fifths of the men between twenty and forty years are gone from their normal pursuits. That means of itself a revolution in the social and economic life of a country, but the absence of the men has been accompanied by the intrusion of great new industries, for the supply of the war. The civil population, robbed of the labor of those best able to labor, must maintain those very same men and supply them with almost incalculable quantities of munitions and of engines of destruction. So it has come to pass that boys are advanced to men's places, old men have been recalled to young men's work, while in England and France alone, some two million women are engaged in work for the war.

I don't know how many more of girls and women have added to the sums of their peace-time labors, and so have assumed part of the burden laid down by their brothers at the front. They are everywhere, the women and the girls, lasses from humble homes and daughters of the aristocracy, side by side, rivals, friends and companions in the new democracy of toil. They have taken the places of men on the trains, in the railway stations, as conductors of omnibuses, as porters at doors, running elevators, driving motor trucks. This last year two hundred thousand of them went out upon the land, Girls from all walks of life working side by side, caring for the farmers' stock and guiding the power lathes in the shell shops. No wonder that the ablest of their political opponents join with the old friends of equal suffrage to enfranchise the women, who fight for the nation and for the new democracy as truly as their brothers and lovers and husbands in the trenches.

The eye is struck by the disproportion between the sexes, on the streets and in the places of business. You are aware at once that great peoples are husbanding their resources; lights are diminished, to save coal; clothing is saved, that the looms may weave uniforms; vehicles are few; housewives are sparing—very sparing.

I have said that the women are sparing of food. That is true of all the people, but the first duty of saving rests upon the women. There is no longer an abundance, but there is not starvation. There is more to eat in France than in Switzerland, while German officers on furlough go to Switzerland to feast. But, if there is no starvation among the Allies, they have learned by a harsh and unkind experience to husband for the future.

There were serious storms in western Europe this year. The wheat crop in Italy and France is short by a half. That is very grave in those countries, for the peasant farmers and workmen, during generations, have lived upon bread and cheese, a little meat and a few vegetables, in a sense of which we know nothing.

Effort—intelligent, energetic effort—is being made to diversify the food of the people, to teach them to cook in ways which are new to them. But, my friends, when the ready hands and the most plastic minds of the young have gone to the mills to labor for the war, it is the grand dames who tend the cradles and prepare the food for the table. Those old hands CANNOT learn new ways. In this country we must spare something of our plenty to make good something of their want, not that they may eat white bread, for there is none in Europe, excepting in the camps of the American army; not that they may eat white bread, but that there may be barely enough for the coarse war bread for the mouths of all.

But, do not think that because whole peoples are engaged in terrific labors, that because they have been bled by great sacrifices and are stricken by great losses, the atmosphere is one of gloom. France, England—neither of them was ever more heroic than she is today.

There are things which I say and which I heard, of which the sad and glorious memory will wound and exalt posterity. Of such was the phrase of the nurse, torn by a broken shell, as she lay blanched upon her

, while General Pershing saluted, as he saw bestowed upon her by the merestissimo the cross of war. "General," she whispered, "I am happy to have been struck, that you may know that the daughters as well as the sons of France would suffer and die for her." A little later there was cited for citation in the orders of the ministry of war at Paris, the name of a tenant of a line already dead, killed as he hurled from the trench a live shell, which would have killed his comrades, if he had left it where it had fallen.

An old friend of my mother's, the widow of an American of distinction, a splendid American herself—Mrs. Whitelaw Reid—sent for me to ask about the fronts and about our men. She had come from the bedside of a young British officer, merry in his misery, glad, though he could walk no more and though he only had one arm, for he had thrown himself on a bomb, which though it forever crippled him, did not touch one of the men of his command.

I spent a day with the Irish Division—marched into the famous Hinderburg trench with the Dublin Fusiliers, and came out with the Irish Fusiliers—rollicking, laughing, as if they were going to fight at a Donnybrook fair. With that indifference to paradox, with that subtle understanding of the spiritual truth, which transcends any prosaic logic, the Irish Division have blazoned on their banners the motto which Louis the Great ascribed upon the Irish Guard at Fontenoy. The gallant Irishman who commands them turned the pages of the roll of honor of the Division, until he came to the name of a simple private. He had been lying wounded in a shelled crater, when he espied over the lip of a ridge in the near distance, a German machine gunner turning his deadly fire upon the scattered ranks of the Fusiliers, seeking sparse cover on the muddy slope. Hughey jumped from the shell crater, dashed limping forward and with one blow the butt of his rifle brained the machine gunner and carried the machine gun back to the crater. In a moment he was up and gone. "Begorra!" he said, "the old man will give me hell for leaving me rifle where the Fritz can find it," and dashing again over the lip of the ridge, he discovered two of the enemy in possession of his arm. He jumped into them with such fury that both surrendered, and then compelling one of his captives to carry his gun for him, Hughey drove the two prisoners back to the Irish lines.

There are no comparisons in gallantry. You cannot say that among the French, Breton or Gascon, Norman or Savoyard is more brave. Among the British, the Canadian or English, Welsh or Irish, Scotch or Australian, one of them have been more daring than the others.

It is as true on Vimy Ridge or on the blood-stained "road of the lances", as it was before Calvary, "that greater love hath no man than this, give his life for his friend".

There is a great deal which you must want to know that I cannot tell you. There are many things important, of intense human interest, of which I am ignorant, because I traveled from capital to capital, and from front to front; because I went from statesman to General and from General to statesman with one pre-occupation: "*What must we do to win this war in the shortest possible time, and with the smallest possible loss of life?*" There are not many men, even in Europe, I found, who have thought of this to me the whole problem, in terms at once general and definite. But among the few most responsible statesmen, among the few Generals of real vision, which the war has produced, I found a general agreement that **UNION AND COALITION** are essential to success; that time is the essence of victory.

It is really not so very long ago, although it seems months rather than weeks, since I traveled along the Italian front from Trieste to the Adriatic, over the dry and broken wastes of the Carso, upon the steep roads

toward the Dolomites, through the very country which the Austrian and German armies have captured, along the very highways which now have been traveled by the German Emperor and his allies, the Austrian Emperor and the Bulgarian Czar.

When I was there the Italian armies were short of cannon and still shorter of ammunition; in a country which produces no coal, less coal has been imported than in times of peace, though more was needed to keep the ammunition factories busy through every hour of the day and night. The wheat crop had failed in great part, and too little wheat was coming in. Hunger was too near.

If Italy holds the present line of the Piave, I am not certain but that we shall count the German thrust as a disguised blessing. There is no evidence that it has weakened Italian resolution, and it has driven home to every thinking man, what only a few appreciated, the unity of the front from the Adriatic to the channel. A reverse, or a success, whether Italian, British, French or American, is of consequence to us all in the common conflict with a common enemy. We cherish a unity of purpose, the enemy likewise; but the enemy also has a unity of command and action, because the Imperial Staff at Berlin dictates to Turkish, Bulgarian, Hungarian and Austrian, as well as to German army commanders. That attack in Italy was admirably done. It was a triumphant proof of the value of unity. German divisions from the Russian and western fronts, Hungarian divisions from Bukowina, joined artillery from both fronts and drove at Italy, where a way in for them was opened by the treachery of a few Italian regiments.

In a statement published a week ago, I suggested that if the Germans hoped for a military success in Italy, they could not have believed that they would secure one. Doubtless they hoped to create a reaction against the war in Italy, but chiefly they were intent on making a great camouflage to conceal in Italy their steady retreat and terrible losses on the Meuse and in Flanders.

The central empires were everywhere in the west on the defensive until the Russian collapse. They had even summoned Turkish infantry to the support of the Austrians in front of Trieste. On the western front from Switzerland to the channel, the Germans are out-manned and out-gunned. There has been a significant and steady deterioration in the morale of the German infantry, and in the quality of war material.

I would not have you believe that there are not splendid German divisions. I would not have you underestimate the genius and the strategic skill of German generals. I would not have you think that they can be driven from the trenches by the gallantry of American, or any other infantry. They cannot. The thing which is important is that Germany has developed the maximum of her military resources and must diminish in strength, however slowly. German troops come through the lines to surrender in increasing numbers, complaining that their officers leave them and go back during bombardments. They include in their numbers boys of seventeen and sixteen, whose tear-stained faces wring the hearts of the captors. The German brass shells show an insufficient and diminishing proportion of copper, as the German cannon show a grave lack of nickel, the necessary alloy of steel, for the manufacture of artillery. But the German armies are now fighting on the defensive, behind the trenches, as all authorities with whom I talked agreed that they could not be dislodged for two years; that it would be impossible to hope for a military decision until then, when the Allies would not merely have the help of American troops, but more important still, the artillery, the transport and the aircraft which American resources alone can supply them.

Heavy guns in this war are what the steam shovel was at Panama. When the French company under DeLesseps sought to pierce the Isthmus with picks, shovels, and petty machinery, men died by thousands on the scratched hillsides. So died the men who fought at Verdun and on the

because they had no weapons equal to the task before them. Now that advances can be made and victories can be won with little when the armies advancing have their ways blazed for them by the thousands of cannon.

was at the last battle of the Chemin des Dames, in the midst of the park, during the greatest bombardment which the French have had out during the history of the war. That fight epitomized the three experience and the skill of the French high command, as Verdun glorified the heroism and the democracy of the armies of republican France.

The Chemin des Dames—"The road of the ladies", the bloody road of death, the highway on which the armies have fought for months and years. It was the scene of the bloody losses and the terrible repulse of the French met last spring, under the command of a General now dead. He thrust his infantry forward, without artillery support, into the mouths of the enemy guns. It was that which dashed the spirit of our friends in the republic across the Atlantic before we came into the war. Those fruitless losses cost something to half the villages in France. Different was it this time, when the General-in-Chief sent for me to go forward to the headquarters of the division which was attacking the enemy's defense.

The road of the ladies" runs along the flat crest of a range of low hills, their sides covered with half-grown forests and pierced by a multitude of quarries—quarries driven into the limestone for the building of Paris. It is, I say, the long ridge of hills, with a flattened top, a sort of elongated butte such as you might see in our western country. Here and there the narrow ridge broadens, where from a larger central mass spurs run out into the valley on either side. On either side of the valleys, which are bounded by the slopes of the Chemin des Dames, are other ridges. The one to the west held by the French and affording emplacements for some of their artillery. The one to the east, across the little river, held by the Germans, the ground upon which the greater part of their artillery is placed. One day, some day, a master of description will paint in English the roads leading to the front, crowded with horse-drawn light artillery, by motor cars heavily dragging forward the ammunition trains for the supply of the front, and middle heavies; ambulances, food convoys, field kitchens, and from every province of embattled France, yellow-skinned colonial troops from Annam and Cochin China, African blacks from the Senegal, and tribesmen of Morocco, ten years ago hostile, now become loyal soldiers under the benign and ordered government of the French republic. Then a little distance from the roaring roads, the headquarters of the Commander-in-Chief of all the groups of armies of France, the headquarters of the commander of the army of that particular front and of the commander of the army corps on that sector, each differing from the other in size, each housed in a quiet villa, linked to the front and to the commands by wires, so that each commander could follow and direct the move under him, telephone to his ear, and his eyes upon a relief which pictured to him every hamlet and hillside, farm house and mountain slope and precipice, highway, battery and entrenchment.

It was not until we drew near the headquarters of the key division, that we heard the voice of battle. Then all the traffic, which had choked the highway, melted along the narrow-gauge rails and the wagon roads to the front. We came suddenly upon a hut, half dug out of the hillside and half built of sand bags—the bomb proof headquarters of the calm man who was immediately responsible for the success or the failure of the pending attack. The air roared not loudly, as reckless writers have said. There were no ear-splitting detonations, unless you were by a battery but as far as you could hear, and even farther—as far as the senses suggest hearing—there rolled along the horizon undulations, reverberations.

berations of sound as if thousands of noises were overlapping one another while overhead the aeroplanes looked like a flock of birds and soundd like a sam-mill.

"Permit me," said the General of Division, "have the goodness, Mr McCormick, to permit me to introduce to you our wrecking contractor." I looked at a second General in some wonder. "This General," he went on "is the chief of artillery, charged with wrecking the enemy batteries and the enemy defenses, so that our infantry may not be cut up when it goes forward to attack." I started eagerly to question the wrecking contractor, but my host, for such the General of Division had made himself, suggested that first we should lunch, as the artillery fire slackened while the men ate their noonday meal, and then that we go to the artillery headquarters. The windows of the sand-bag and dug-out hut, which was headquarters and mess hall for the division staff, rattled with the shock of the guns. You could hear the occasional scream of a shell. I heard my old college-mate, Gouverneur Morris, talking with a distinguished French literary man—a member of the Academy, and now a staff Colonel—about the qualities of the French language. Morris explained that he hoped at the end of a year in France to complete the education which he had acquired during the years he spent there as a child, and to learn to write French accurately. The statement was concluded by a terrific explosion, and then I heard Colonel Marcel Prevost answering that he had received his degree at the University some thirty-five years ago and had been fifteen years a member of the Academy; that he hoped that if he lived another ten or fifteen years, by that time to learn to write French well. Then hell echoed again and Prevost sought to dissuade Morris from trying to do in one year what not more than a dozen living Frenchmen could do, and what Prevost himself hoped to do not for a dozen years—to write the French language as it should be written. And then, as we arose to go forth to overlook the battle, I heard the General say that nevertheless a knowledge of two languages was useful, as Paul Verlaine had beautifully translated into French the verses of Edgar Allen Poe, and then he went through a hole in the ground into the office of the wrecking contractor. Here he had maps and tables and little reports, not unlike those of the number of square yards excavated and the number of tons of steel produced under the direction of the superintendent or general manager of an American enterprise. The photographs were carefully classified in groups, for they came continually from the aeroplane observers and marked the progressive destruction of the German batteries. Certain officers were expert to read them, as certain physicians are cunning in making diagnosis from a radio draft. Photographs of the result of the artillery fire were supplemented by the reports of pilots and observers, who occasionally came and went, and more often by wireless messages from air craft equipped with Marconi instruments who notified headquarters to sprinkle the fire a little more to the left, or to drop it a little more on the right, and when they located 3000 Germans hiding in a cavern, saw word to drop asphyxiating bombs on the cavern, so that the gases, as they went through the cracks, would destroy the men within. The French gun won the battle. They blasted away the enemy's batteries, overwhelmed, stunned, slaughtered the enemy infantry, and then the French infantry advanced at a walk and took, almost without losses, the ground which the generals had planned for them to take last June. That is the secret of all successful advances.

If I have spoken at length of the Battle of the Chemin des Dames, it is not to slight the tremendous efforts which I witnessed on the British front, but because the French attack epitomizes the importance of artillery as completely as it illustrates the science of the modern artillerist.

I saw something of the steady pounding of the British armies, the consequences of which are noted in this afternoon's dispatches. What is happening in Flanders and what is happening on the ridges between the

the Ailette is not foreign to the events in Italy. The British and the French have proven that artillery is the weapon of first importance.

Lloyd-George has spoken of the cavalry of the air. I would not underestimate the significance of air craft, but they are only the servants of the great guns, which are the masters of modern battles, and the Germans are able to summon reserves to hold the French or the British. As yet they have been able to bring from the Russian front only enough to drive into Italy. They preferred that use of their forces to an effort to stop the relentless advance of the British and French armies.

The tide has turned. By ever so little, perhaps; but the tide has turned. There may be back washes when the Germans bring still more divisions and more guns from the Russian front, when they add to their batteries in France and Flanders the cannon which they bought from Russian traitors during the period of fraternization. The tide has turned. It rests with us to see that it does not ebb again, but flows resistlessly to the full flood of victory.

Have I made myself clear? Have I presented the problem intelligently? I have lived with it so constantly night and day that I am conscious that in telling what I have seen and heard I may omit something of great importance.

Time is the essence of victory. COALITION AND CANNON are the means by which we may win a victorious peace. With them we can win, if American help does not come too late.

I cannot go without leaving with you a summary of the front. To the south, from the Adriatic to the Swiss Alps, runs the shortened Italian line, about two hundred miles long, where Turks, Hungarians, Austrians or Germans are joined in battle with Italians, French, and British; then from Switzerland along the mountains of the Vosges, over the rolling hills of central France and the plains of Flanders to the channel. Here the British hold a fourth of the whole, let us say one-third, of the active front in France. The British guns in proportion to the length of their line are three or four times as many as those of the Italians, and even more numerous by far than those of their stout French allies.

France—God save her!—cannot manufacture guns to make good her own inadequate supply, for she is manufacturing for us, the greatest steel producers in the world, because we are not able to turn out guns for our own armies. In France and Flanders our friends hold the enemy, out-manned and out-gunned. But we may look for some redress of the balance of power as the growing chaos in Russia permits the withdrawal of infantry and artillery from the east, to strengthen the lines on the western front.

We are sending men. We must send them; but at best they can cross the seas in slowly growing numbers, to join the little army—the gallant little army—which is encamped about the spot where Joan d'Arc was born and grew to womanhood and from which she went out upon the mission which was to end in her death and in the rebirth of France.

Men we must send, but still more urgently must we send guns, weapons to our friends, that they may defend themselves; that they may win victories while they await our coming.

"For God's sake send us great guns and munitions!" I can hear the greatest of the French generals, as if he had but spoken. "We are grateful for your little army. Its coming was a pledge to us that you had not forgotten the old friendship, when the soldiers of Rochambeau and Lafayette mingled their blood with that of your forefathers across the ocean. But now, my friend, tell your countrymen to send us guns, many guns, and quickly, so that two years from now, when at last you are ready, we may have men enough to bear our share of the burden in the hour of victory, in order that you may not have to win this fight alone."

It is as if two great giants—Democracy and Empire—were locked in a death struggle, cramped horribly in the bottom of a pit. Empire lies a

little under Democracy, but better placed to gouge and to thrust. The both terribly bleeding, suffocating, choking—the one from the blockade the other from the submarines. But Democracy so lies that we may stay his wound, open a way for him for air and nourishment. You understand that if we bring Democracy what he must have, he will choke Empire submission.

I have but one fear, that we shall not act swiftly enough. All through the war the Allied Democracies have done that which should be done too often they have done it too late. Already we have done things too because with the lesson of the war before us, they might have been sooner. We lost months in the construction of shipping, because of quarrel between Denman and Goethals. We lost time because of the inequacy of Admiral Capps for the task given to him. We wasted war when we might have been building great numbers of sea-going destroyers. I hope that the new head of the war industries may impart decision energy to the making of engines of destruction.

If we would do our part, we must create a war cabinet, a war council which in contrast to the partisan mediocrity of the present as of other war cabinets, will summon to conference, will charge with chief responsibility the greatest men in the Union, without reference to past rancors, with regard to differences of faith or faction.

Yonder across the seas the white heat of patriotism has fused hates in a common purpose; old enemies, embittered by years of personal and political strife, have put aside bitterness to sit at the common conference table, to share together the common burden, to divide among themselves without jealousy, the tasks which are to be done.

As I walked along the outer battlements which defend the first approaches to the citadel of Verdun and gazed over the waste where five million men, there surged up in my memory the words of Abraham Lincoln:

"We cannot dedicate, we cannot consecrate, we cannot hallow ground. The brave men, living and dead, who struggled here have consecrated it far above our power to add or detract. It is for us, living, rather to be dedicated here to the unfinished work which these who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us, that these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain."

Across the seas, the national spirit has been shot through with a fire. In Italy, England, France, there is a new solidarity, a new and real Democracy than ever before; a consecration of purpose, born of struggle and the sacrifices which they have made. They have learned to know the voices of those who would weaken the government and the army in the struggle.

We shall do no less. The resolution of the people, the industrial talent and the political genius of America will not prove unequal to the task.

Fired by old memories, united by new trials, roused to the full strength of citizenship by the task before us, we shall seek efficiency, as we seek victory, and with American steel eagerly arm our Allies' forces our own, that they may strike down the enemy and not be stricken.

3. Saturday Morning.

Professor H. B. Ward presided at this session. The speakers were Dr. Luther H. Gulick, President of the Camp Fire Organization, New York, and Helen C. Putnam, M. D., LL. D., Chairman.

the Committee on Teaching Hygiene of the American Academy of Medicine, Providence, Rhode Island.

Dr. Gulick spoke on Organization of Health and School Standards. The speaker emphasized the need of more adequate organization in high schools for out-of-door exercise. He especially favored much walking as a daily exercise, with a regular requirement in miles covered for each school week, month, or year. He also favored outings by which to get entirely away from the routine of school life.

For this exercise he would have the schools give regular credit, not as a substitute for scholastic credits but as requirements in addition to these for graduation. The actual credit for such work should be written upon the diploma received at graduation.

The address was rich in suggestiveness and should produce results in the high schools of the state.

Dr. Putnam's topic was Dynamic Health Instruction. She presented to the high schools a plan for a definite health campaign and for prizes which she offered to the schools presenting the best report. We give the plan here in full:

PLAN FOR CLEANLINESS AND HEALTH CAMPAIGN BY ILLINOIS HIGH SCHOOLS

Since much tuberculosis, influenza, bronchitis, whooping cough and other disease is caused by inhaling invisible spray or droplets from the mouths of people when coughing and sneezing; and

Since much typhoid fever, dysentery and other disease is caused by handling food and dishes with unclean hands; and

Since government investigation shows that more than half a million days of work are lost annually by preventable illness, thus lessening production of food, ships and munitions, with resulting loss of life and danger of defeat in this war; therefore be it

Resolved, That the High School Conference of the University of Illinois accept from an anonymous donor a gift of Liberty Bonds for awards to Illinois High Schools whose pupils assist in lessening illnesses, according to the following plan:

On or before the first Wednesday of May each year from 1918 to 1922 inclusive the Director of the High School Conference shall receive from the pupils of each high school undertaking the following public health service a report of the year's work, for which Liberty Bonds will be awarded; A \$500 bond to be held until 1921 inclusive for one year by the high school having the best report of

1. Hourly temperatures in rooms and corridors from November 1 to May 1.
2. General temperature conditions in local public meeting places, as churches, theaters, moving picture places, court rooms, etc.
3. Air currents
4. Illumination
5. Dustiness
6. Cleanliness of whole school premises
7. Cleanliness in groceries, confectioneries and ice cream parlors.
8. Campaign in community (including schools) for covering mouths when coughing and sneezing
9. Facilities for washing hands in schools, railroad stations, factories, stores, public comfort stations and wherever there are public water closets.

9. Campaign for washing hands before touching food and dishes
In 1922 this Bond shall become the permanent property of the school whose report for the year shows the greatest improvement over 1918 in

1. Health conditions and habits in school and community
2. Merits of report itself

A \$100 Liberty Bond will be similarly awarded to the high school holding second place during the five year period.

The conference Proceedings of the University shall publish each year an Honor List of all high schools sending in reports of reasonable merit. At least 100 accredited high schools must send reports.

Awards will be made by a committee of judges from outside the state to be appointed as hereafter decided.

Reports must be typewritten and must not exceed 4000 words exclusive of diagrams, charts and tables.

The right is reserved to make no award if no report merits it.

Awards shall be announced one week before the end of each school year.

The following interlocking committee was appointed at Dr. Putnam's suggestion, of which the Director of the Conference was designated as chairman: H. A. Flanders, Hinsdale, Mathematics; Mrs. Clara G. Rhodes, Galesburg, Domestic Economy; Miss Rose M. Gyles, Cicero, Physical Education; James Nelson, Granite City, Physics; G. J. Koons, Pontiac, Biology; M. L. Flaningam, Urbana, Social Sciences.

Dr. Putnam's address is here given:

DYNAMIC HEALTH INSTRUCTION

DR. HELEN C. PUTNAM

Save a day of health for the country's service

There are three propositions on which I anticipate we shall all agree without debate. The first is: It is the immediate duty of every school and individual in it to do their best to win this war.

The second is: Unless educational practices in health matters correspond with educational precepts we train in hypocries and inefficiencies; doing and example are more forceful than memorizing, health habits stronger than health maxims.

The third is: Educators in their war service may and should prepare to win the not less strenuous battles of reconstruction after the war. The world will be better only if we, the people, choose lines of conduct wisely; only if education trains civilians as definitely and effectively as soldiers are preparing. Can we be inspired to carry over into struggles for bettering civilization the intense purpose, the technical knowledge, the definite methods that win? It depends on educators beginning all this now among those in the training camps for reconstruction who will have the responsibilities,—intense purpose, technical knowledge, definite methods.

A university president said last month in his opening address: "It is good for us to be violently shaken from familiar standards and ambitions. It is good to have every sort of complacency thrown to the ground to be made thoroly ashamed of the best we have done, by finding all around us men who are rising to greater heights of consecration. It is good that we should be hurt with the sudden throes of a loftier ideal We are to live in one of the great ages of human history We are to take thought more deeply than before, for the loyalty which every man owes to the cause of humanity."

High school pupils in whom you can awaken this spirit and motive will easily see that the first step is to maintain personal vigor for efficient daily work. It is good psychology to encourage open expression of war and preparedness as the present urgency for personal hygiene. If we could run things logically, we would have as good medical supervision of pupils as we have of soldiers. They would be in the hands of various kinds of experts, defects would be more promptly remedied; clothing, food, recreation, rest, teeth and feet, habits, bathing and sleep would be held to better standards than now—it is a war duty to do this. Saloons, vice resorts and their agents would be removed by law enforced by public sentiment, instead of tolerated as now; pupils would be instructed definitely against social dangers instead of left as now to learn them by chance and experience. It is a war duty to do this.

The estimate that 70 per cent. of college and university students are rejected in the draft because of physical defect is one measure of public schools. That war secures personal health service which peace does not is furnishing abundant food for philosophies of cynics and pessimists, and critics of education in a democracy. We must cease hiding our heads in the platitudes of optimism, with their excuses for avoiding issues, shirking battles. If good does not win, evil wins. Will the schools carry over the war spirit into health campaigns?

To supplement health supervision certain kinds of dynamic health work are needed immediately in the camps and in the schools. The first group of facts with which to engage pupils' war service concerns the prevention of infection by mouthspray. Army doctors report this month an increase in the number of men ill because of colds, sore throats, pneumonia, measles and the like, and an increase in the number of deaths from respiratory diseases which are among the troops as in civil life one of the commonest causes of mortality.

It is well known that all these are communicable, and that probably the most frequent method of contracting them is through saliva. Experimenters have measured the distances to which saliva is thrown from the mouth in the form of spray or droplets. It varies with different people from ten to fifteen feet, even carried by air currents around and behind the person. This spray is thrown out when with uncovered mouth one coughs or sneezes, laughs or talks energetically. These droplets or this invisible spray contain micro-organisms which may be germs of influenza, bronchitis, catarrh, pneumonia; of diphtheria, whooping cough, meningitis, or the undiscovered germs of measles and scarlet fever. The person scattering the spray may not be ill with the disease whose germs he scatters. He may be one who has established a tolerance for them and is immune; but the germs may be quite as virulent to another person as if the carrier were ill. It has been found that 50 tubercle bacilli inhaled as mouthspray produced in animals 20 lung nodules, while 2000 from dry dust did very little or no damage. Because of the dangers of mouthspray surgeons have the custom of covering mouth and nose with cheesecloth when operating. Sanitarians recommend forty inches between the heads of operatives in factories, a distance often less in camps and schools. The resulting infections mean so much to the efficiency of the troops that there is growing insistency on the habit of covering the mouth when coughing and sneezing, and on other precautions for the same purpose, such as placing adjacent cots with head alongside foot. Neither homes nor schools establish correct habits. Now it is urgent not only for troops, but for civilians on whose health depend army supplies and reinforcements, and the conduct of national affairs at home. We should have immediate help from schools to make the habit of covering the mouth when coughing and sneezing as universal as is any other habit of elementary decency.

This intensive campaign might well have begun a month ago; but it can begin next Monday with the opening exercises of every Illinois high school. After laying the foregoing and other facts before the pupils, request

them to count the number of uncovered coughs and sneezes "from now until Tuesday morning," and when replying to roll-call give the number counted instead of "present". Count them in school, playground, streetcars, stores, homes, movies, etc. Impress the fact that this is war service. Continue this "survey" for a week or more, announcing the daily totals, securing reports of where the offenses occurred to help in deciding methods of prevention.

One suggestion may be 300 word "stories" of the survey, the best to be sent to local newspapers and school papers. The stories may vary emphasis at different times, putting it on streetcars, or on churches, or movies, or concerts and lectures. The public will become interested when they know "a chiel's amang them takin' notes." Cartoons with pointed reading contexts will probably be suggested soon. When they have been accepted by a committee of students and teachers, they may be enlarged, colored and placed conspicuously in libraries, lecture halls, schools, and especially in the advertising spaces in streetcars where they may do the most good. Plans for work during the holidays should be invited, for these weeks cannot be lost in war time.

Pupils should be frequently reminded that these efforts are not of themselves meritorious; that only results count; and about the middle of January they may be asked to report the number of covered as well as uncovered mouths. Keep this war service alive with reports, stories, cartoons, letters to mothers' clubs and others telling what is being done, why, and asking co-operation. Invite new ideas, put all responsibility possible on pupils, until the warm months, and resume the campaign next winter earlier.

There is another group of facts to present to pupils in a call for service. Illness in camps frequently laying men off are intestinal diseases such as dysentery and, until this war, typhoid fever; but now much typhoid is prevented by compulsory vaccination of soldiers; civilians have still to control it. These diseases are largely due to pollution of food and drink with bacteria from intestine and bladder.

The prevention is a nation wide habit of washing the hands thoroly before touching food, dishes and drink. This method of infection of milk supplies results in epidemics of scarlet and typhoid fevers and in much infant mortality. Many illnesses following public banquets are due to unclean hands of caterers and waiters. Health boards publish as interesting detective stories as can be found. There should be in all high schools fairly complete files of the monthly bulletins of the state boards of health of Illinois, Massachusetts, New York and others (probably to be had for the asking), and of *The Journal of the American Public Health Association* which should also be subscribed for annually. High schools might well become members of the Association and receive all its publications. They are very readable, and it is desirous that pupils be accustomed to go to such sources for information.

In this intensive war campaign for establishing habits of washing hands after leaving waterclosets, and before touching food and dishes, methods similar to the mouthspray campaign can be used, first briefly giving reasons; and it should be noted that many other than intestinal bacteria are communicated by unclean hands, such as those contained in saliva. Ask for surveys of facilities for washing hands not only in high and elementary schools, but in railway stations, public comfort stations, libraries, etc. Ask reports of unwashed hands at school lunches, in restaurants, boarding houses, or even homes. Direct them to publish reports of infant mortality, typhoid and scarlet fevers, milk borne epidemics in their own city or state; compute the number of days lost, wages lost, inconvenience to army or to public from lost services. It will impress them to be told that government investigations show that over 270,000,000 working days annually are lost by laborers of three dollar a day rank because of illnesses mostly preventable. This amounts to nearly a billion dollars wasted out of the pockets of working people. The annual loss of 270,000,000 days of work in supplying

food, munitions, ships may easily mean death for hundreds of thousands, and even defeat. Tell the story of the Princess Pats, Canada's troops that a few months ago went into battle 2400 strong and came out 150, crawling along the ground to escape German fire—all because of lack of guns and ammunition. Meanwhile in England guns and ammunition practically completed were delayed a few days in shipping because certain workmen insisted on taking their usual holidays just then, while their brothers were laying down their lives for them. A few hours or days loss of service, like wasting a half slice of bread daily, when multiplied by millions, may decide between winning or losing the war. Save a day of health for the country's service.

Develop this campaign as before, and have it understood that health campaign work is credited like other school work.

There is a third series of conditions for students to know. In midsummer of 1914 the men of France were rushed to the frontier in a terrible emergency. There was no time for medical examinations to eliminate those having open tuberculosis that would be communicated to others, no time for instruction to prevent infecting others, none to give proper care to food, clothing, sanitation so that latent tuberculosis would not become active because of poor general health. As a result, for the last two years France has been shocked by the alarming increase of tuberculosis both in army and in civilian population. Our own experts have gone over to help save the country from its terrible scourge, and the end is not yet.

Such haste has not been necessary with us. Our medical corps has succeeded in keeping out of camps nearly every open case, altho there have already been a few deaths from tuberculosis. They are trying to hold sanitary and hygienic regulations to such excellence that general health will improve, so preventing development of latent disease. This is more than we have accomplished in civilian life. Tuberculosis still increases from infancy to the thirties, except among open-air school children, in spite of all our anti-tuberculosis agitation of the last fifteen years. We shall have tens of thousands of new cases every year. We can do little more without vigorous help from schools, not merely by selling Red Cross seals, but by more intelligent and equally determined work.

Health boards and societies have learned certain lessons thru their failures—there is no pardon for failure when its lesson is not learned. They learned quite early that over feeding patients with gallons of milk and dozens of eggs weekly, of which we heard so many boasts at first, is a mistake; but out of that campaign one factor came triumphant—the benefit of open air. They learned that in many cases exercise in open air is harmful, rest often better when in open air. They learned that improvement comes more rapidly in cold open air than in warm, and the great danger of mouthspray, but comparative harmlessness of bacilli in dry dust. They are concentrating just now on segregating all open tuberculosis where it cannot infect well people, i. e. all patients who cannot or will not observe the necessary precautions against infecting others. They have learned also that probably every one of us has healed foci of tuberculosis which do no harm so long as general health is good, but are liable to become active when one is exposed to heavy infection. They probably act as a vaccine that renders some immune to infection, which explains why certain members of a family escape the fate of others.

One more lesson has been learned: Greater progress is made by vigorous concentration on single points—as the enemy does, throwing divisions in masses on one frontier, not aggressive attack on all frontiers at once, but not neglecting to hold what is gained—when possible. If we could segregate all open tuberculosis away from well people (a thing impossible to do, but if we did it), there would be quite as much again in a generation or two unless we establish certain better habits of living. Covering mouth and washing hands are two, to prevent infection by saliva. Another has been demonstrated in open-air schools. The emergency demands in all buildings

lower temperatures and more open-air conditions, if we are to reverse statistics of school years. Set this definite object before pupils, to change an increase into a decrease, as open-air schools have shown possible.

The need of great economy in coal is an excellent opportunity. Appoint health officers to regulate temperatures every hour in rooms and corridors. It should never exceed 68 degrees. Details of health officers' work are outlined in the Report of the committee on janitor service to the Department of Science Instruction of the National Education Association, 1913. This costs no money to put in practice, indeed saves money, and is already the custom in some schools; but it must become universal, not only in schools but in homes and all buildings, if we conquer tuberculosis. In addition many schools should experiment with cloth windows, accounts of which are published in several school journals, remembering that it is hardly worth while unless having at least one square foot of cloth window per pupil.

Another even more urgent demand comes to the schools, comes to instructors rather than to pupils. Statistics from the army again shall be the starting point.

For several months *The Journal of the American Medical Association* has published weekly reports of the Surgeon General under the heading "Army Mobilization." Occasionally they are accompanied by official discussion of their significance. In the issue for November 3, page 1537, the chief of the division of the medical corps devoted to laboratory work states that the third week of the draft army showed about 400 out of every 1000 have contracted either syphilis or gonococcus infection; that certain hospitals are full of these cases; that the highest army rate in twenty years has never exceeded 162 per thousand; that the rate of 400 per thousand is likely to continue and represents the condition in which selected men of draft age enter the Army from civilian life; that these are the detected cases, and there is an additional unknown number of concealed cases, for which concealment when discovered a man will be courtmartialled and confined at hard labor; that the only preventative is education in civilian life, and in the Army where, also, there is entire control of a narrow zone around the camps. He does not comment on the probable facts among the millions of draft age who are rejected by examiners because manifestly below standard.

Here we have one more measurement of American civilization and education. "It is good to have every sort of complacency thrown to the ground," "to be made thoroughly ashamed of the best we have done"—provided we learn our lesson.

Civil campaigning on a comparatively small scale has been under way for a few years, arising from more or less chaotic motives, for prevention of child mortality, of feeble-mindedness, of diseases of the nervous system, of numerous physical defects and common diseases. This curious grouping together of child mortality and defectiveness, nervous and mental diseases, blindness, rheumatism, heart disease, is because a very considerable proportion results from the presence of either the spirocheta pallida or the gonococcus.

To the gonococcus is due a large proportion of rheumatism, fully one-third of blindness, probably one-half of childless marriages, possibly one-half of one-child marriages, a percentage of heart, liver and other organic diseases. This is a systemic infection, not merely a local infection, and any tissue liable to be invaded.

To the spirocheta pallida is due a large proportion of deaths before birth—it is estimated that one-third of all conceptions are thus destroyed, a considerable proportion of deaths during the first year after birth, perhaps one-third; a part of child and adult debility, defectiveness and deformity; of mental retardation, paralyses and insanities. The further into causes of mental and nervous disease modern research goes, the more prevalent the germ of syphilis is found. Research is also finding that the gonococcus is several times more prevalent, but is not heritable. The spirocheta pallida

heritable for two or more generations, the only disease germ known of which this can be stated. A considerable proportion of illness called tuberculosis is found by new methods of diagnosis to be syphilitic infection instead. So often has this occurred that it is not unusual practice, when a case of tuberculosis seems intractable, to treat it with anti-syphilitic specifics, and many improvements follow.

No positive cure of either syphilis or gonococcus infection can be assured by any method of treatment we now have. Once infected the man or woman must always be under suspicion. This is the statement of the best medical authorities with largest experience in seeing failures following assurances of cure by less accurate and less scrupulous physicians. Army physicians aim to cure only so that men can return on duty. They may not be killed in war; they may return to civilian life where each becomes a menace to wives and to the next generation, as are all such that are not in the Army. Whole peoples have been exterminated by these scourges in recent centuries.

Every nation, like an individual, is its own worst enemy. Nothing any foreign government has ever done to the United States has hurt it so much as our own wilful ignoring of causes of racial degeneracy. The rate of increase of insanity is twice the rate of increase of population. The birthrate among mental defectives is greater than the average birthrate; the care of extreme cases of mental defect and insanity costs annually into a billion dollars, money and effort needed for education and care of normal children who are useful citizens if rightfully brought up, and become criminals and otherwise harmful when unwisely managed, as statistics show we often manage.

Our most malignant enemy can not wish more effective traitors among us than those of us who not only actively but passively, not only directly but indirectly connive at, or consent to or submit these wrongs to the next generation. I would be a slacker and one of these traitors if, in discussing with educators dynamic health instruction, I failed to urge with all my might your work with all yours to send into the Army our best young men in the twenties free from such a record as present reports show. We know that there is no legitimate excuse for maintaining around our children degenerating influences that we can exclude from zones around military camps. We condemn ourselves to destruction when we leave such in civil life to victimize the living and the unborn.

"It is good to be hurt with the throes of a loftier ideal," to rise "to greater heights of consecration" in service to humanity, by protecting the rights of the next generation to be well born and well cared for. I should like to see a poster placed in every schoolroom reading: It is the supreme object of life to make the next generation better than living generations. I should like to watch the reaction among high school pupils. Why not make it your first shot in campaigning for "a loftier ideal?" Ask the school specialist in lettering to quietly place this poster in a conspicuous place in every room before the holidays.

In every department according to its viewpoint follow up this ideal—the open statement of an ideal too long unexpressed by thoughtful people—to its limits, or can you find a limit? *The supreme object of education is to make the next generation better than living generations.* Does it not extend before us where finite minds can hardly follow, and behind us to the unknown beginnings of things? It dethrones the ideal Democracy has proclaimed—"Rights of the individual," and enlists democracy in a world crusade for Rights of the Next Generation, which is a more intimate and explicit way of saying the perfecting of humanity. Individualism and autocracy go together; both have their limits. The rights of the people of the past, and of the people of the future is the true meaning of government of all the people, by and for all the people. It gives the individual for his little time infinite power as trustee.

A parallel to this educational ideal is recent recognition that exuberance of children which under existing degenerating environment reveals mischief and "crime"—the more exuberance, the more mischief and "crime" is happier and serves good purposes when directed into vocational training for boy and girl scouting and the like. When from early childhood we understand definitely that our reason for living is to deliver our inheritance of life and environment conserved and bettered to the next generation, individualism with its "rights", appetites and self-indulgences blends with a greater purpose. Normal men and women are happier with wholesome aims in following their most compelling instincts—hunger and mating; hunger—preservation—too often gratified grossly, mating—race preservation—often merely fancy and pleasure,—like exuberant children with no better aim than expending superfluous energy.

Expressing this loftier ideal definitely in words is the first step in the reconstruction of a better society after the war. In concentrating on this we must avoid mistakes that have already hindered progress. Of one thing you must be careful in your consideration. When you read Army Reports in *The Journal of the American Medical Association* you find syphilis and gonococcus infection are called together "venereal disease." This offensive name prejudices everyone almost hopelessly. It is a relic of ancient superstition and medieval ignorance. Its continued use testifies to a mistaken mental attitude. It causes many physicians and in consequence some non-professionals to condemn its use is no reason at all why educators should. There is no offensive suggestion, no hint of immorality in the correct names of the contagions which should control like other contagions. It is inexcusable to so label innocent children and wives who are victims in large numbers. Therefore biologists discuss micro-organisms of contagions they should mention *Chlamydia*, *Chlamydia pallida* and gonococcus along with tubercle and diphtheria bacilli and others; and giving lists of diseases from which the public should be protected by health boards, mention syphilis and gonococcus infection and gonorrhoea which is merely one manifestation that is included under the general term along with typhoid and scarlet fevers, measles, etc., giving similar details concerning each in the truly scientific spirit. In social science be equally scientific, eliminate sentimentality that permits and contributes to racial degeneracy by stigmatising as immoral what in the majority is innocent crucifixion by civilian slackers and traitors.

There is one more "don't." Do not mention and do not entertain in your own minds the idea of "sex instruction." Great harm to a great cause has been done in recent years by the flood of books, circulars, papers and lectures on "sex hygiene." The opposition met often came from a subconscious feeling that sex which has been the erroneous basis for hosts of gradings or foolish discriminations is but a part, not the whole; is a means, not an end; is a tool, not the masterpiece the artist creates and which we should admire. "Sex," like "rights of the individual" is too limited. Like "venereal disease," "sex instruction" must go into the discard.

One urgent topic for supplementing the ideal of the next generation is a discussion of feeble-mindedness, insanity and diseases of the nervous system as they occur in communities, and cause poverty, infant mortality, alcoholism and crime, diverting public resources from education and care of the people with possibilities of usefulness. There is every reason why every pupil should learn Mendel's law of inheritance of unit characters with special reference to inheritance of mental defect. (1) When both parents have normal parents for two previous generations, all their children will be normal. (2) When both parents are feeble-minded, all children will be feeble-minded. (3) When one parent is feeble-minded, the other normal, all children will be apparently normal, but capable of having feeble-minded children according to the three following laws. Such are called "simplex." (4) When one parent is simplex, the other feeble-minded, there are equal chances of simplexes and of feeble-minded children, no chance of normal. (5) When both parents

are simplex, there are one chance in four of a normal child, the same chance of a feeble-minded child; two chances in four of simplex. (6) When one parent is simplex, the other normal, there are equal chances of normal and of simplex children. We have no way of recognizing simplex persons (they appear normal, but have inherited from some feeble-minded ancestor the possibility of transmitting feeble-mindedness) until their feeble-minded child is born—when it is too late. If simplex marries normal, and only their normal child marries (a normal), feeble-mindedness is eliminated from the family line. At least three generations may accomplish this, the third being necessary to distinguish normal from simplex. But no normal should enter such an alliance without knowing the risk of contaminating a clean inheritance. All men and women should understand the importance of knowing direct ancestry for at least three generations. Diagrams making this clearer can be had from the Director of the Conference. When so many of the best young men are being destroyed, there is hardly any war service of greater importance in preventing an increase of our discouraging percentage of mental defectives than for education to assist intelligent choice in marriage.

In closing, I urge the need of inviting pupils to take up some form of health work as their life work. There is real need to fill the ranks of capable physicians, nurses and public health workers. It grows with every month of war, and will continue to grow in the reconstruction period, for there should be better workers to maintain higher standards. Even if later ambitions divert them into other service, the elementary instruction in high school will be useful knowledge. Inspection of premises, health surveys, campaigning for betterment, are excellent preliminary training in theory and practice that will be useful under all circumstances. There is one vocation for girls that could be quite completely prepared for,—Mothers' Helpers. The foregoing sanitary work, supplemented by a course in physiology of growth, general and personal hygiene, child study, children's clothing and feeding, as outlined in the reports of the American Association for Study and Prevention of Infant Mortality, could make graduates immediately useful in a much neglected field—the care of children before school age.

It is probably indispensable for dynamic health work to have an interlocking committee of several departments. Among the first of these I would place the department of mathematics because, as has been said, it is not merely work, enthusiasm, publicity that war times demand. It is results; results in fewer lost days of work, larger and better outputs, whether in shop or school, or in the army. There is but one way to prove results—it is by figures—figures, their judicious compilation, correct combinations and comparisons. One of the most patriotic services mathematicians can render is to accustom pupils to work from the publications of the Bureau of the Census, which should be in every public library, or for the asking may be had in school libraries. The Census is our mirror that makes us "ashamed of the best we have done". It is the Census that proves we are many times over the richest nation, but rank lower, sometimes very low, in our carelessness of human lives: our infant mortality rate, preventable typhoid fever and other diseases, our murders, mortality and maiming from accidents, our consumption of intoxicants and tobacco. Encourage pupils to consult other reliable statistics, and to find the rate of personal loss, or class, or school, or community loss by preventable illnesses of various kinds. Compute these and similar problems from local health records, and compare communities, or years, or months. By your problems prove dynamic health service growing in efficiency.

The interlocking health committee should have also biologists to arrange their share in teaching micro-organic life and prevention of communicable disease, reproduction and heredity; directors of physical training to arrange for medical examinations, physical exercise under sanitary conditions, and instruction in intimate personal matters; instructors in physical

to forward practical work in recording temperatures, air currents, illumination, dustiness; the home economist to plan for teaching care of young children; and a representative of social science to stimulate study of social misfortunes preventable by popular attention to a comparatively few elementary laws of health. The executive of such a committee is a vital consideration, and might well be the Director of the Conference.

SUMMARY

War conditions demand intensive public health service for high schools for—

1. Prevention of infection by mouth-spray.
2. Prevention of infection by unwashed hands.
3. Securing better health by better in-door air conditions (temperatures, air currents, illumination, fresh air).

Efficiency of methods should be tested by results in health and vital statistics.

It is as urgent to save a day of health for the country's service as to save a slice of bread for the Allies.

Democracy is rising to a loftier ideal than "Rights of the Individual". It is to stand for Rights of the Next Generation: rights to be well born and well cared for; to receive from the living the trust of life and environment inherited from the ages, conserved and bettered. "All the people" includes—we cannot escape this biologic fact—the past that lives in today, and, until the race vanishes, coming generations that carry on today's life and its works.

At the close of the addresses a committee chosen to nominate two high school men to act as members of the State Committee of the North Central Association of Accrediting of High Schools reported naming Principal William Wallis, Bloomington, to succeed himself and Principal H. J. Alvis, East St. Louis, to succeed E. V. Tubbs who has removed from the state.

4. The Library Exhibit.

Another general feature of the program was the exhibit of war material prepared by the University Library Staff and displayed in the upper corridor of the Auditorium throughout the duration of the Conference.

The following report on this exhibit is given by Miss Jessie B. Weston, General Assistant in the Library:

An unusual feature of the Conference was an exhibit of pictures, posters, circulars and pamphlets illustrating the effects of the great war upon the high schools or suggesting ways by which the high schools may contribute to the solution of some of the problems raised by the war. The exhibit was collected and arranged by the University Library and was the result of the generous cooperation of a variety of organizations, a considerable number of which are national in character. Much valuable material was the gift of the several departments of other states. The magnificent drawings "With the Grand Fleet" by Muirhead Bone were the personal gift of Mr. Geoffrey Butler of the British Pictorial Service in New York City.

The exhibit, which was in the upper corridor of the Auditorium and which was open not only during the general sessions of the Conference but on Friday afternoon also, was well attended and proved to be very much worth while. As none of the pamphlets displayed were available for dis-

tribution, many of the visitors took advantage of the opportunity to obtain the names and addresses of the associations, offices or firms responsible for the pamphlets in which they were individually interested. Outside of the miscellaneous material which was not readily adapted to classification, the collection was arranged under the following heads: History and Current Events, Military Training, Food Production, Conservation and Preparation of Food. A few of the pamphlets which proved to be of especial interest are listed and briefly described below. A list of names and addresses of organizations from which these or similar publications can be obtained is appended.

National service handbook. (Committee on Public Information). A reference book on all forms of war activity, civil, charitable and military. Contains a large amount of detailed information not usually so easily accessible.

Opportunities for history teachers. (U. S. Bureau of Education. Teachers' Leaflet No. 1, 1917.) Gives suggestions for teaching the lessons of the great war in the classroom.

Lessons in community and national life. (U. S. Bureau of Education). Issued monthly during the school year 1917-18 in three sections of which Section A is for the upper classes of the high school. Each issue contains one or more lessons. A brief list of references follows and discussion is suggested and directed by questions appearing at the foot of the page.

War pictorial. (Illustrated London news and sketch ltd.) A periodical composed exclusively of pictures.

Outline of plan for military training in public schools of the United States. (U. S. Army War College). Sets forth the Wyoming plan.

Military training of youths of school age in foreign countries. (U. S. Bureau of Education. Bulletin, 1917, No. 25). Gives detailed information for seventeen foreign countries in regard to the military training of youths of school age.

Food garden primer. (National Emergency Food Garden Commission). Simple definite directions as to when and how to plant in order to have a good garden.

NR series of home gardening and canning instructions. (U. S. States Relations Service, Office of Extension Work, North and West). Illustrated pamphlets.

Home economics teaching under present economic conditions. (U. S. Bureau of Education. Circular, September 5, 1917). Suggestions for teachers of home economics.

Home canning manual for vegetables and fruits. (National Emergency Food Garden Commission). Explains methods of drying and gives directions for construction of apparatus for home drying.

Graphic exhibits on food conservation at fairs and expositions. (U. S. Food Administration). An amply illustrated pamphlet of 52 pages. Contains practical suggestions and plans on the preparation and arrangement of exhibits, demonstrations and contests.

Committee on Public Information, Division of Educational Cooperation, 10 Jackson Place, Washington, D. C.

National Board for Historical Service, 1133 Woodward Building, Washington, D. C.

National Emergency Food Garden Commission, 210-20 Maryland Building, Washington, D. C.

American Association for International Conciliation, 407 West 117th St., New York City.

National Security League, 31 Pine St., New York City.

United States Food Administration, Section of Elementary and Secondary Education, Washington, D. C.

Emergency Committee, American Home Economics Association, 19 West 44th St., New York City.
 United States Relations Service, Office of Extension Work, North and West, Washington, D. C.
 Illustrated London News and Sketch, Ltd., Milford Lane, London, W. C.
 United States Bureau of Education, Washington, D. C.

5. Social Features.

The very nature of the Conference as a working body precludes any very extensive social functions. The one annual feature, however, is the reception given to all the teachers, at the close of the Friday afternoon programs, at the Woman's Building. The attendance this year was large and the social hour seemed to be greatly enjoyed by all. The arrangements for this reception were under the general direction of Miss Frances Simpson, Assistant Professor of Library Economy. Miss Simpson was ably assisted by Miss Josie B. Houchens, also of the Library, who had charge of receiving and introducing the guests; and by Miss Viola J. Anderson of the Household Science Department, who superintended the serving of refreshments.

Another interesting social feature which may also become a regular affair was a luncheon by the members of the High School Principals' Association, served by the ladies of the University Christian Church.

6. Report of the Interlocking Committee for Agriculture and Biology on the Correlation of Science Work.

The following report was presented to the various Science groups by Professor J. L. Pricer, Chairman of the Committee:

REPORT OF COMMITTEE ON CORRELATION OF SCIENCE WORK

To the Science Sections of the Illinois High School Conference:

We, your committee appointed last year by the Director of the Conference to consider the correlation of Science Work, wish to make the following report:

1. We understand that we were appointed, merely as a preliminary committee, to consider what the Science Sections of the Conference might undertake to bring about in the way of greater uniformity in the organization of science work in the high schools of the State. Consequently, we feel that we shall have accomplished what was expected of us if we endeavor to state the problem as it appears to us, and make some definite recommendations as to how the Science Sections might attack it.

2. It is generally recognized that the science work in the high schools is seriously embarrassed by the existence of a superabundance of excellent educational material in the various fields of science, which is suitable to the age and capacity of high school students, and also by an over-classification of this material. Both of these facts tend to contribute toward endless variety and lack of uniformity in the science curricula offered in different high schools. When a superintendent faces the problem of choosing his brief science curriculum from the following list of subjects—Physi-

ology, Botany, Zoology, Biology, Physics, Chemistry, Physical Geography, General Geography, Agriculture, Household Science, General Science, Astronomy, and Geology—and when he is bound by no necessary sequence or order of arrangement, it is little more than a matter of chance that he shall choose the same curriculum that any other superintendent has chosen. Considering also the richness of subject matter in all these subdivisions and in the consequent variations in the content of different texts on the subjects, there is much room for great variation in the content of courses that are called by the same name. Furthermore, when we add to these conditions the fact that in one high school a given subject may be taught for a full year to juniors or seniors with excellent equipment, from a modern text, and by a well-trained teacher, and in the next high school this same subject may be taught for a half-year, in the first year of the course, from an antiquated text, with practically no equipment, and by a teacher whose major interest and training is in some other field, we get some notion of the range of diversity that exists in the science work of the high schools.

3. This great diversity in the science training given in the high schools makes absolutely impossible any correlation between the science work done in the high schools and that done in college. Practically all high school graduates who take up science work in college are forced by this condition to start with beginning courses, along with other students who have had no training in the subjects. No class of freshmen in college could be found, all of whom had even a similar experience in science. As a result of this condition, wise high school principals sometimes advise high school students who plan to go to college to defer their science studies until they enter college and to devote their time to Latin, Mathematics, and other studies which they will not need to repeat in college. Thus this condition is one of the factors which is contributing to the decline of science in the high schools.

This diversity of science experience is equally unsatisfactory for the high school students who do not go to college, for it fails to give to the high school graduates a body of common interests and points of view and thus does not contribute to that solidarity of society which is so essential in a democracy.

4. The solution of this problem is plainly up to the science teachers; to those who fully appreciate the immense significance of science in modern life, and who realize that no education or preparation for modern life is complete which does not give the student a touch of the scientific spirit and equip him with a certain minimum of scientific knowledge.

The solution of the problem is largely a matter of the elimination of much possible subject matter and of compromise between the advocates of different special masses of subject matter. Such an organization should be found that will eliminate all duplications and overlapping of subject matter of different courses and in some way the friends of science should come to agree on some plan for which they can stand united. Such a result can be brought about only when all concerned are willing to view the matter scientifically and to attack the problem in a spirit of compromise.

5. We do not believe it possible, at present, for all the friends of science to agree on a single program or plan of organization, but we do believe it possible for us to agree on a limited number of different programs which we could unitedly recommend to the administrative officers of the high schools.

In accordance with this belief, we wish to recommend that each of the Science Sections, namely, the Agriculture Section, the Biology Section, the Earth Science Section, the Household Science Section, and the Physical Science Section, appoint or elect two representatives to serve on a general committee to consider this problem. We recommend that Professor Hollister, or some one whom he shall designate, be made chairman of this com-

mittee, and that the committee be called to meet on Saturday morning of the 1917 Conference week for the purpose of organization.

We suggest that the committee divide itself into sub-committees according to such affinities of belief as may happen to exist, for the purpose of working out different plans of organization, and that the reports of these sub-committees and such other pertinent discussions as the committee shall see fit to arrange for, form the basis of a joint session of all the Science Sections on Friday afternoon of the 1918 Conference. Possibly it will be found necessary for each sub-committee to work out plans of organization for high schools of different sizes.

6. We believe that such a plan of attack should ultimately lead to a unification of the science forces behind a limited number of plans of organization, and in the end should result in an immensely greater uniformity in the science work of the high schools of the state and in all the gain to science and education that this would entail. We believe that the administrators of the high schools stand ready to be advised about the science work of their schools, for it is to them a most difficult problem, but so far we have had no common advice to give. It is possible that, as the years go by, we shall be able to reduce the number of different plans for which we shall stand.

7. If, in addition to this effort to unite on the plan of organization, the different sections will keep struggling with the problem of unifying the content of the courses in their respective fields of science, we may hope to arrive at such a degree of unity in secondary school science as will put it on a par with other high school subjects. It is the endeavor to solve such problems as these that makes the High School Conference distinctly different from most other teachers' organizations.

J. L. PRICER, Normal;

W. E. ANDREWS, Pana;

L. F. FULWILER, Mt. Pulaski,

Committee.

PART II

SECTION MEETINGS

1. ADMINISTRATIVE SECTION

The Administrative Section of the High School Conference met in Morrow Hall, Agricultural Building, at 9:00 o'clock Friday morning, November 23d, with Superintendent A. P. Johnson of Urbana presiding. The general theme for this section was "Vocational Guidance". The following papers were presented:

STATISTICS ON VOCATIONAL GUIDANCE IN THE HIGH SCHOOLS OF ILLINOIS

Principal R. G. Beals, Township High School, Taylorville

The following report is based upon an attempt to ascertain to what extent the high schools of Illinois are interested in vocational guidance, and the nature and extent of the work already being done in this direction.

Late in the spring of this year a questionnaire was sent out to 200 of the high school principals, in fact, to every high school principal who was shown in the directory as having five or more teachers in the high school. One hundred sixteen principals replied to the questionnaire. Twelve reported an enrollment of 100 or less; thirty-seven, enrollment of from 100 to 200; seventeen, from 200 to 300; eleven, from 300 to 400; twelve, from 400 to 500; eleven, from 500 to 1000; and fourteen, an enrollment of from 1000 to 2500. Schools representing 51,271 pupils in all were heard from. These schools were located in all parts of the state, including the city of Chicago; so it was felt that a very fair report of conditions was obtained.

The questions sent out were as follows:

1. Are pupils allowed to choose courses with a view to the vocation they expect to enter?
2. Who advises them in their choice?
3. Is any special study of vocations made by pupils?
4. Are pupils advised by a teacher who has made a special study of vocations and their requirements?
5. Is any special study of the pupils made by teachers with a view to finding out fitness or aptitude for vocation?
6. Give details of any work you may have done in your school in the way of vocational guidance.
7. Do you maintain a bureau of any sort to help pupils to obtain positions during vacations or at the end of their course?
8. If so, tell how it is conducted.
9. What suggestions do you have to make as to the best way to give vocational guidance?

The questions would indicate that the answers would necessarily include not only vocational but to some extent at least educational guidance as well.

On the first question, only six schools report that they do not allow pupils to choose courses with a view to the vocation they expect to enter. Twenty-two others allow this only to a very limited degree, while six report a very liberal opportunity. The other eighty-three do not indicate the extent.

From the answers to the second question we learn that ten schools make no provision for any advice to pupils in regard to what courses they shall take. Thirty-eight report that the advisory function is in the hands of the superintendent or principal entirely—in one or two instances with the knowledge and aid of the parents. In one, suggestive courses are given; in another the grammar grade teachers direct the pupils into the high school courses; and in the rest, most or all of the teachers participate as advisers.

In regard to the next question, eighty schools have provided no means for special study of vocations by the pupils, and four others practically none. Twenty-eight report that they are providing for such study. In one, lectures are given by skilled vocational guides.

As to the preparation of the teachers who advise pupils, seventy-six schools report that they have no one who has made any special study of vocations. Forty schools report that one or more teachers who have had some preparation are advisers for part or all of the students.

Seventy-two schools are paying no other than chance attention to the fitness or aptitude of pupils for the various vocations. Forty-four are making some attempt at a special study of the pupil himself; while six report that they are making and studying systematic records.

A selected list of things that have been attempted at various times by different principals follows:

"We have about a dozen talks a year on different vocations in convocation. Do some work with seniors with principal on vocation guidance."

"Talks by teachers. Books in our library. Talks by prominent men and women in different institutions."

"One semester's course in Vocational Guidance. Study of one hundred different vocations as to requirements and what they offer. Study of local industry and salaries."

"Only work done along this line has been through the enrolling of students. A series of questions asked each student in an attempt to find fitness of student, or at least some general vocational tendencies."

"Texts on vocational guidance have been purchased to supply advisers and this work is taken up in English classes, which offers a good opportunity for oral themes and discussions. We had one class in efficiency meetings three times a week."

"Such efforts are confined largely to an attempt to change the direction of those who are preparing for a thing for which they are obviously unfit and determining what they may profitably substitute. The elimination occurs largely in the case of those preparing to teach or to become typists."

"Chiefly advice given after careful study of the individual child."

"We have men come to the school to speak before our vocational students about the requirements of the various vocations."

"Weekly assembly talks on vocations and choice of vocations. Weekly assembly addresses by professional men on their professions. Inspection trips, special reports on vocations."

"Discussions and talks on requirements in different employments. Access to literature on the subject."

"Only by dividing into groups. Teachers over each group trying to give help in choice of subjects."

"One full week prior to opening of school given to interviews to pupils accompanied by parents."

"Use of books—outlines and references for pupils to read."

"We have a class in the study of vocations. Elective by Juniors and Seniors. The enrollment in this class is twenty."

"At present personal conferences are held with every member of the graduating class. Records are kept by card index. A course in the study of occupations is projected to start next year."

"Direct vocational guidance has been done by the bureau of vocation and supervision. We have explanatory talks before groups of students and interviews with pupils about to leave school; all by a person skilled in this work, a member of the bureau of vocational supervision."

"We urge students to strive for qualities that are graded in efficiency blank. We have had special speakers on lines of work in which the speakers are expert."

"Work consists chiefly in making plain to parent and pupil requirements, remuneration, etc., of vocation desired."

"A lady teacher takes a group of girls each day and spends ten minutes upon some phase of vocational work to be used in individual conference."

"We observe the pupil—study his ability, natural aptitude, ambition and family and home environment. Then try and fit course to pupil, rather than fit pupil to course. We have not gone into this extensively but intend to do more next year."

Seventy-six schools have no formally organized bureau of any sort to assist pupils to obtain positions during vacations or at the end of their course. Many of these, perhaps all, do give informal assistance. The commercial department acts as a bureau in many instances, usually, however, for commercial students mainly. Sometimes a special teacher is employed as manager, with a system of files to keep track of students and employers. A bureau has been in some instances managed by student organizations. In at least six cases the school is associated with some outside club or organization.

A number of principals responded to the request for suggestions as to the best way in which to give vocational guidance.

A list of these suggestions selected to avoid needless repetition follows without attempt to change the wording or to arrange the order:

"By personal consultations every year. Students change their ideas from year to year. Also by consultation with parents."

"Have not worked the matter out to the point of having any 'best' way. But frequent conferences with students and organizing them into vocational clubs."

"Must be done through the school (not from central office) by teachers or investigators trained in this work."

"I have found the committee on vocational guidance to be of great assistance."

"I believe this work should start in the 8th grade and should be handled by high school principal and 8th grade teachers. That is, this plan would work in the small high schools."

"The offering of the regular course in vocational guidance."

"Survey of the occupations of the community, statements of employers as to what characteristics make for success in those occupations; careful analysis of students by teachers, the cataloging of traits, etc.; the establishing of an employment bureau."

"We prefer to resort to compulsory attendance in order to bring attention of all. The instructor in charge must be a man who has had considerable business experience, if possible he must know industry as well as being an instructor."

"Prepare an outline for each vocation, based on best authority. Hold classes twice a week or more for study of these outlines, supplemented by talks from the person in charge. Then individual attention to doubtful pupils can be given. The recitation should be voluntary—but regular attendance insisted upon after enrollment."

"Experienced teachers for groups; and if school is large enough to have a director of educational and vocational guidance."

"A study could be made by sending a questionnaire to several members of each of several occupations asking the qualities most essential to success in these occupations. I have partially planned such a process but have sent out no letters."

"A group of trained investigators who are human enough to care more for people than for statistics and research per se should be ready to serve the schools. Such a group should be an integral part of the educational system of the community, ready to do the field work that the teachers cannot do and competent to advise. This group should cooperate with the schools in every way possible."

"Organized study of occupations, with particular attention to aptitudes of the individual students. Maintaining of bureau in school in cooperation with commercial and business organizations, where positions may be listed, and giving opportunities for personal conferences between employers and students seeking information. Also follow-up work by school directors."

"I do not believe a person can give successful guidance unless he has worked for the concerns to which his students must go, for three reasons: 1. The concerns should have more confidence in his judgment than in that of their own employment agent. 2. The person giving help can pick a student for a position knowing he is doing justice by the concern and by the student. 3. The student is never recommended for a position he cannot fill and he is therefore not handicapped by having his first position resulting in a failure."

"I am still hunting a best way or indeed any adequate way of giving vocational guidance in a small school of limited means. I hope this investigation may bring it forth."

"A special teacher should be selected, who knows the requirements of the business world, who could confer with the class teachers in regard to the fitness of pupils for certain occupations and advise them accordingly."

"Let the pupil learn the vocational significance of every study in the course. Teach all pupils education values from point of view of vocations and economics. See Sandwick's 'How to Study and What to Study'."

"We are attempting it by way of trips to best farms for those who look forward to agriculture; we visit shops, etc.; we have talks given in exercises of school. We present requirements set down by training school."

"It seems to me that very much vocational guidance in a high school is impossible. We can better train the students for vocations by making good students out of them. Then if they enter vocations after finishing school, they will have the benefit of their good moral training. We can't train students in the high school in the technicalities of the vocations. They need first a general understanding of things."

"Any plan will fail that does not have in it a chance for personal conferences with a person of wide information and understanding of folks. To have different teachers to take up group discussions is very effective. It would seem that a special teacher has advantages but should not be depended upon altogether. To do so deprives the teacher of doing the work he is best fitted to do."

"Vocational guidance should be made as much a part of the course as any study."

"In large cities a central body thoroughly trained for the work."

"The method used by Jesse Davis, Grand Rapids, Michigan."

"Point out possibilities in various fields—what they require and what they will give in way of side returns beyond wages or salary, what chance for promotion."

"A good text in the hands of each student as early as he needs guidance, to explain what the various lines of work mean in the way of preparation and opportunity, with talks to groups from time to time to supplement the book."

"Keep everlastingly before pupil the problem of selecting vocation."

apply him with all available material concerning different vocations; let him finally decide for himself. No teacher should presume to make the decision for him."

"Who authorizes a teacher to give 'Vocational Guidance'? Perhaps he may not be justified in doing so."

"Teachers should study the needs and demands of various professions and should study the pupils, noting aptitudes, and then try to couple up."

In only one or two instances was the need or desirability of guidance questioned. The tone of the answers received leads one to think that the time is certainly ripe for the development of an easily applied, thorough, and standardized system of vocational guidance as a recognized part of our high school course.

PREPARATION OF TEACHERS TO TAKE UP VOCATIONAL GUIDANCE

Principal H. G. Schmidt, Belleville

At this particular time more than ever before in the history of our country is there a need for the vocational guidance of the youth of our land. Too much of the usefulness of our young people has been allowed to go to waste both for themselves and the community of which they should become useful members and citizens. This calls for more work on the part of the already overworked teacher and provision for another subject in the crowded school curricula. While the work of a vocational advisor is not clearly outlined, nor definite in content, yet his need is felt in view of the greater service the schools must offer—a greater service that can be of an immediate nature both to student and state.

Just what the qualifications of the vocational guidance teacher should be can be only attempted in this paper in view of the fact that the field of his labors is so broad and the conditions so varied. In this paper I shall endeavor to give a few essentials that should be a part of the training of the teacher of vocational guidance as I see them.

The great responsibility of such a position, the far reaching results, the possibilities for good, the chances for error and consequently for misfortune are so great that any conscientious teacher must necessarily analyze himself very carefully to ascertain if he has the courage to assume the responsibility of making or marring the future of those who come to him for advice regarding their careers. Hence the vocational guidance teacher must have moral courage and confidence in his efforts; such a teacher must be more than ordinarily conscious of the importance of his work—must be more than ever governed by a determination to be fair minded and just. If he be governed by any bias or prejudice, harm will come to some one who must innocently bear such harm in the loss of time for readjustment and to make up what might be lost through misdirection.

It goes without very much discussion that the vocational guidance teacher should have a very liberal academic education, in which much time should have been spent in the study of economics, sociology, and industrial history, especially of recent times.

Granted now that the teacher has schooled himself in fairness of judgment, and attained a liberal academic training, what then, may we ask, should he possess more than that? What special training should he undergo to fit himself to become an intelligent and reasonably safe guide to the inquiring mind of youth seeking advice on the most momentous question of his life—a question that has puzzled most of us at one time or another, and one that we solved possibly more by chance and the force of circumstances than any other factors. Are you a teacher by deliberate choice or what were the motives that led you into the profession you now grace with your best efforts? Is there someone to whom you are now under obligation for directing you into this profession? Did this someone have some special training or insight into your ability and mental inclination as well as your oppor-

tunities in his particular field? What was the particular preparation of y vocational advisor?

It is evident that the vocational teacher must have more than a read knowledge of vocations whether they be trades or professions. He sho have had opportunities through observation to come into contact with conditions of vocations in general and those of his community in particular. He must have mingled extensively with men in all walks of life and dra from them an intimate knowledge of the opportunities and prerequisites their respective vocations. Should this teacher have had the opportunit to have worked his way through his training in various occupations a industries, all the better for him. Should he have been able to travel m widely than the average is able to do, well for him. The teacher of vocational guidance must have an aptitude for mixing well with his fellow m on friendly and sociable terms. Should he have these qualities by inher ance so much the better for him; if not he must teach himself and acqu them as far as he may be able. He must know human nature, he must kn how to lead men, he must know and know sympathetically the problems youth and the psychology of the adolescent mind.

There are some things that the teacher can get by contact with t realities better than in any other way. He must be an observant stude of man and his work. This training will come by experience and rip with service. Truly much of his knowledge can be acquired in schools t the skill and fullness of knowledge must come from continued self-instru tion and patient as well as painstaking habits of thought, based on intima contact with the facts of the industrial world, the aspirations of youth a the conditions in and under which these youthful ambitions must develop.

Besides his special training in an intimate knowledge of vocations a the psychology of youth, there is another attainment the vocational teach must acquire and that is facility in discovering the abilities of the stude seeking aid and service. There are no special standards by which this c be done. This cannot be done upon sight. It will require full and free d cussion with the students, parents, teachers, and employers, if he has ev been employed.

A book written recently by Holmes W. Merton, entitled "How to choo the right vocation", lays special stress on determining the abilities of t student. It is based upon a common idea—that every person can do b the thing for which he or she is best adapted, naturally. But the questi always has been—how can such fitness be determined? The old haphaz way of drifting into one's place will not achieve satisfaction in many cas and may lead often to failure when success could have been otherwise sured. The demand for efficiency can be met only by some better metho More than 1,400 vocations are named in this volume, which presents a extended analysis of the abilities required especially in each of these; a self-measurement suggestions are made which might enable a teacher choose rationally the line of effort that may be pursued with great promi Abilities are classified as dominant, essential, and supporting, and these a fairly illustrated. For instance, a painter must have "Color" not only the dominant ability, but "Form" as the essential, and "Imagination" as t supporting. A writer of fiction, on the other hand, would require "La guage" perhaps as the supporting ability.

Deterrments and deficiencies are pointed out also and the chapters ("Personal Characteristics" can not fail to benefit every reader with their bro suggestiveness. Many of the questions in these chapters are searching a likely to lay bare tendencies which need correction; and yet the purpo of the book is not to reform, but to form, to help in starting the reader alo the right road to easiest achievement.

I have thus spoken at some length on the subject matter of this bo because it seems to me to lay bare one of the essentials in which a teach of vocational guidance must be schooled. Gauging abilities and aptitud

a view to guiding youth into the field of its greatest usefulness and fitness is a new obligation that our schools must assume if they mean to serve the communities that support them, and by so doing serve the state and nation.

By way of summary let me say that a teacher in his training for vocational guidance must seek to attain:

- a. Skill in forming reliable judgments.
- b. A good, liberal education with special stress upon the social and industrial sciences.
- c. First hand information by contact with or observation of vocations in general and those dominant in his community in particular.
- d. Skill to diagnose the ambitions and aspirations of youth and encourage boys and girls to attain something definite in life.
- e. And lastly to acquire skill in the determination of abilities of individuals so as to direct them into one major line of endeavor with a view to the attainment of the highest individual efficiency to self and community.

THE USE OF THE CARD INDEX AND CATALOGUE OF TRAITS

Principal A. J. Burton, Rock Island

A very large majority of the boys and girls who enter our high schools, for that matter a large majority of those who are able to receive credit enough to graduate, have no idea of their own abilities or of the abilities necessary for success in the common vocations. A student takes the required studies of the school which happens to be in his vicinity, and elects studies which he thinks may be interesting, judging merely from the name, or selects a subject because one of his friends liked it the year before, and carefully avoids one which is reported as difficult by his chum across the way. Sometimes he is influenced in his choice of subjects by the fancy of a grandmother whose dream of a lawyer-son has never been realized, and now the boy, anxious to please the old lady, promptly enrolls in Latin. He has no idea just how this will help, neither does the grandmother, and in fact—let us speak it softly—neither does the teacher. At one time it might have been necessary, just as necessary as Spanish is at the present time for the South American trader, but at present there is some question as to what abilities are necessary for success in law. The same is true of all vocations. In general, the student takes what seems to him to be the best he can get in the year in which he is classified, and if he fails at these, he tries others and still others until he finds something in which he can make the passing mark of the school. He earns 15 units and receives his diploma. Armed with this weapon he goes forth to conquer the world. Is it any wonder that defeat comes in many instances? With little or no knowledge of the abilities required to do a piece of work or of the abilities he possesses, the graduate is no better prepared for his life work than the non-graduate except that it so happens that many vocations have certain requirements in common, and a general training develops any of these common abilities so that the graduate can do equally well in a number of things; and further, by accident, he may have developed specific abilities in school that are required by the vocation which he entered by accident after graduation. Where the two accidents work together a successful career is the result, but where the abilities are found in school and developed and then accident does not complete the job, a "misfit" is the term we use. "He was a bright fellow but somehow he did not get along well", is the usual comment. But when accident fails both in and out of school, we have the unemployable.

If the student should go to his teacher for assistance this teacher has only his own observation of the student's aptitudes, plus the class record,

to form the basis for advice, and many times the teacher has had a very limited opportunity to observe the student and then only in the light of his one subject which does not give a complete view. If you know a teacher you can make a good guess as to what advice will be given, no matter who the student may be. There are two faults: first, the teacher does not know the requirements of the different occupations in enough detail to give the best advice; second, the teacher does not know all the abilities of the student to be advised.

It is safe to assume that no one teacher can give sane and positive vocational advice with only the school records, as usually kept, and his own personal observation as the basis. The story of the blind man who went to see the elephant is apropos. Each teacher bases his opinion as to the vocational future of the pupil upon the particular aptitudes he has opened to touch. Each teacher learns something of value, either of a positive or negative nature, which should be contributed in some way to the broader view of the abilities of a pupil if that pupil is to be so advised that he will become the most efficient social being after school days are over. Yesterday most of the work of the world was done in the home and each child on becoming an adult did just about what others had done and were doing, when he took his place as a producer. The division of labor and the creation of myriads of needs that were not known when the life centered in the home, has called for men with special aptitudes to do highly specialized pieces of work. Ways for finding workers who possess these special aptitudes have not kept pace with the increased complexity of life. Most of the advice to students at the point where elective studies are permitted, usually in the high school, is to encourage them to prepare for one of the so-called learned professions. The schools are not fully aware of the fact that today all kinds of embryonic workmen make up the student body, and not just the "most promising lads", who were sent to the earlier schools to prepare definitely for one of the learned professions. No adequate plan for furnishing advice to all has been developed.

It is agreed that there are some things in common in most all vocations, particularly if we grant that the worker should be more than a machine, that he should be a part of the social structure. We agree that the worker must be able to read but no one will venture a guess as to how well a person should read to be a baker, a banker, or a billiard player. No one knows just how much arithmetical ability the baker must have and just what degree of skill will place the worker in the banker class. We do know just how fast a boy must run to represent his school on the track team. Very few school men know little enough about athletics to enter a fifteen-second man in a hundred-yard dash. Neither do we find atrophied right biceps among the shot putters. We know something about the abilities required successfully to compete in athletics, and have devised certain tests and established standards for the various events so carefully that they can be used to find the boy who has the required abilities and the training can be given. In athletics we can speak in definite terms to the boy, but when we come to advising one of these same boys concerning the game of making an efficient social being, we cannot speak quite so definitely.

There are two things that are absolutely necessary if we are to give advice which will function in winners when school life is over. First, the various vocations must be analyzed and the requirements necessary for success cataloged so the vocational adviser may have scientific information at hand. Second, a more complete means of ascertaining the abilities of the youth must be found. The first is receiving attention and the vocation after another is being studied in a general way, and some more receiving more scientific attention. The adaptability of the human animal has contributed to the delay in scientific work on the second. It has been said over and over again that a boy can become just what he wishes

become. A few years ago the County Superintendent would visit a school and just before leaving would exhort the boys to be good and study, then sometime they might be president of the United States. We might say with the same propriety that anybody can make the track team if he wishes to do so. Surely it would not be wise to hold this idea before the unfortunate lad who was born with a deformity of his feet. We are now guilty of advising students to do work for which they lack certain abilities, though the defect is not so easily seen as the physical deformity, yet it is just as certain to cause failure.

These two needs must be cared for at the same time. The various vocations must be studied at first hand. The exact requirements can be ascertained, not by theorizing, but by actual study of the thing to be done. It is clear that many requirements will be the same in a large group of vocations but special requirements will be found on careful analysis, which definitely mark one vocation from another. More complete information concerning the capacities of the student must be known if "misfits" are to be avoided. In addition to the judgment of teachers and school records, should be added a scientific study of abilities. Dr. Carl Seashore of Iowa University has done a most valuable work along this line on Vocation Guidance in Music. He has made it possible to make reliable and fairly complete measurements of the fundamental capacities which constitute musical talent early enough to be of definite value in planning a musical career. To succeed in music not one ability is required, but a number of distinguishable capacities, each of which are independent of the other, and are found in varying degrees of development. The measure of musical talent is not one simple measurement but a large number of measurements, which give a very accurate knowledge of the natural capacity of the person examined, and give valuable information as to the advisability of musical training. More scientific information is needed, just such information as Dr. Seashore's measurements give. The measurement of any other talent is likewise not a single measurement, but a large number of measurements. In order properly to guide a youth in the planning of his vocational career, it is necessary to know what capacities the individual has and the state of development of each capacity, but to date little has been done in other vocations than music. When this has been done for other vocations, it will be a prominent factor on the card of traits kept by the vocational counselor.

Many schools are beginning to do something toward keeping a catalog of traits for vocational guidance, but up to date the work is too general to be of great value. However, it is a step in the right direction, and much better than doing nothing.

As the result of an inquiry concerning plans for cataloging traits, sent to about fifty schools which have been reported as doing work in vocational guidance, I find that most schools attempting this work use some sort of record of traits. In most instances the record of traits is found on the back of the card carrying the academic record, and consists of a few words, such as common sense, energy, initiative, leadership, reliability, etc., followed by a blank space for some word to be inserted which is to show the quantity of the trait possessed by the student. Only a few schools have any definite plan for securing this information and all are far from perfect. The crudeness of this most valuable part of the record is an appeal for much careful study. The appeal has been heard and work has begun. Professor Cattell, in an article concerning the characteristics of men of science, enumerates twenty-four traits. Dr. Wells has made a study of this material and suggests a more or less quantitative form to the characterizations. Some such list of traits might be used to furnish the nomenclature, but to learn and record the abilities of a particular youth is the important matter.

Self-analysis has been proposed as a valuable factor in making up

this record of traits, and without question it should have its place as self-analysis can furnish material that might never be learned by observers. There is plainly a source of error in this factor which cannot be overlooked. But taken as a whole it has much to commend it.

George D. Halsey of Atlanta proposes what he calls an "Averaged Opinion" plan by which he means the scientifically averaged opinion of every one who has come in contact with the pupil together with any psychological or physical tests which may prove of real value. This plan seems to be the best in current use, and a plan that can be used in school work.

I believe the time will come when the psychologist together with the expert in each vocation will definitely determine the abilities required for each vocation, and tests will be devised to measure the degree of development of the capacities of the individual, and then definite and valuable vocational guidance can be given. This catalog of traits will then give the vocational counselor authority. The round peg can be identified and placed in the round hole and likewise the square peg placed in the square hole.

Joe wanted to be a stenographer. He spent two years at a business college and then entered high school hoping to increase his speed on the typewriter to such a point where he could get a position. For three years his thick, clumsy fingers punched away at the keys of the typewriter but only a very slight increase in speed rewarded his efforts. He finally decided to drop his stenographic work and try geometry, and there he is doing excellent work. Some one or more fundamental abilities necessary for success as a typist are wanting or present only to a small degree, while at least some of the abilities necessary for geometry are developed to a marked degree. If some measurements of his abilities could have been made three years ago he might have been well on his way toward a career in which mathematics is fundamental, and no time would have been wasted on a skill which could never be of value to him.

A catalog of traits must become a part of the school record of every student entering the schools, and should be honored with a place on the face of the record card as it will be of more real value than the academic record. Little has been done on this in the past, but the awakening has come. Work is being done and more is to follow in the near future. Until more scientific work has been done let us use every good thing that has been proposed and much good will result. Combine the judgment of teachers, judges and friends with self-analysis and special physiological and physical tests and valuable information will result, information which will be of great use to the counselor in directing youths into the places they are qualified by native capacities to fill.

The following bibliography and blank forms will prove valuable to students or those interested:

The Use of the Card Index and Catalog of Traits.

(A brief bibliography of helpful pamphlets and books).

- The "Averaged-Opinion" Plan—Geo. D. Halsey. 1917. Pp. 1-12. *Special Bulletin* No. 2. The Vocational Bureau, Atlanta, Georgia.
- "Selecting Young Men for Particular Jobs"—Dean Herman Schneider. 1913. Pp. 1-9. University of Cincinnati.
- "Mental Testing of College Students"—W. V. Bingham. 1917. *The Journal of Applied Psychology*, Vol. I. Pp. 38-45.
- "Vocational Guidance in Music"—Carl E. Seashore. 1916. *University of Iowa Monographs*, Series I, No. 2. Pp. 1-11.
- "Vocational Psychology"—Harry L. Hollingworth. 1916. Appleton & Co. Pp. 1-307. \$2.50.
- "Method for Estimating Abilities"—James B. Miner. 1917. *The Journal of Applied Psychology*, Vol. I. Pp. 123-133.

Types of Forms Used.

I.

The most common form. Usually on the back of academic record card.)
GENERAL CHARACTERISTICS: Reliable..... Industrious..... Obedi-
 at..... Cheerful..... Courteous..... Has pupil initiative?.....
 Remarks

II.

INQUIRY BLANK.

Name..... Address..... What grade of work is this em-
 ployee doing?..... Excellent..... Good..... Fair.....
 How could it be improved?.....? Have you observed any habits
 which are interfering with his efficiency?..... Has he capacity for
 advancement and increase in wages?..... Signature.....
 Name of firm

III.

INQUIRY BLANK.

To the Teacher:

Would you recommend..... for vacation work?.....
 Efficient?..... Reliable..... Remarks.....
 Signed..... Principal.....

IV.

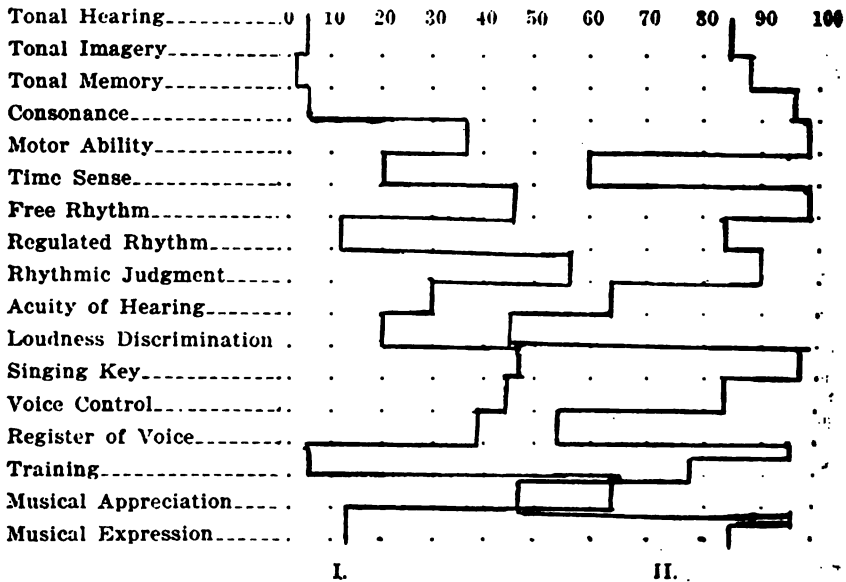
Name..... Age..... Date..... Preparing for
 Is full time or part time employment desired?.....
 Kind of work preferred..... Kind of work obtained.....
 Name and address of employer..... Date of engagement
 Wages..... Endorsed by (endorsers to check
 qualifications under number corresponding to signature.)

	1	2	3	4	5	6
1 Prompt						
2 Reliable						
3 Painsstaking						
4 Accurate						
5 Industrious						
6 Courteous						

V.

Averaged-Opinion Plan. Several blanks used. The most important characteristics that bear on the choice of a vocation are divided into eight groups. (1) Mental-Scientific, (2) Mental Calculation, (3) Mental-Literary, (4) Manual, (5) Executive and Organizing, (6) Commercial, (7) Social, (8) Religious. A self-analysis blank, report of physical examinations, and parents' (or personal friends') blanks, are used. The recommendation is made from average of all material.

VI.



Number I is the chart of a young lady who is markedly deficient in musical capacity throughout and has not profited by her extensive musical education. This may be contrasted with Number II, which shows a case of usually high natural talent for music, though relatively uncultivated.

VOCATIONAL GUIDANCE THROUGH OUTSIDE SPEAKERS

Principal W. F. Coolidge, Granite City

Vocational guidance has been a hobby of mine for the past 20 years. Along with it has been the idea of closely tying together the school life and the future vocation of the boys and girls who come before us as pupils. These two things have been my main topics of educational study since I have been teaching and I believe they furnish the greatest problem of the high school today.

In the five years I have been principal of the Granite City High School I have been able to do considerable definite work in guidance and I believe the best part of it has been in bringing to our pupils outside speakers who have given them the real thing in vocational guidance.

We are fortunate in our situation—an industrial town of 18,000 with some half-dozen plants that would be called large anywhere. Then St. Louis is so few miles distant that we have all the resources of one of the great industrial cities of the world at call. We try to make good use of our opportunities. In addition to our regular class work in vocational guidance we aim to bring to the school speakers from the outside, regu-

ly once per week, at least. These speakers rarely talk longer than five minutes or less than thirty. As a rule the time so consumed is deducted equally from the class periods of the half session so no single class is unduly robbed.

We try to carry out a twofold program. Firstly, the industries and possibilities of employment in our own city are all represented, for the city is the first place for our boys and girls to seek employment and life service; secondly, the great typical professions are presented by worthy exponents. I cannot say that we ever actually finish a round of talks although I think we could do so roughly in two years. Perhaps three years would be better, so that each vocation would be demonstrated twice a school generation, once to Seniors and once to Freshmen.

In the professional line we have listened to a leading lawyer and to the president of a law school; medicine will be represented by a physician, dental surgeon, and the president of a medical school; and it is never hard to get a preacher or an editor to address the school, while the pedagogues have to be kept out by force, sometimes.

Since about sixty per cent of our enrollment is in the commercial department we try to get representatives of various commercial activities to visit us, criticize our work and talk to us along their lines. We have on our lists teachers in Business Colleges; representatives of the various typewriter manufactories; office managers of wholesale concerns; a great paper company; a department store; sales managers from various industries; and cost accountants from some of the best managed concerns in the country. While getting big men and women for the big messages we do not forget that sometimes the greatest value is gained from the little message delivered by a boy or girl who has been out in the world only a year or so and is not yet sitting in the seats of the mighty. Frequently the year-old graduate can get something through the present pupil's mind that neither the teacher nor the outside dignitary can.

We are especially fortunate in being able to get men in the industrial field to come to the school and tell our boys and girls what they are looking for when they employ help. Each of our steel plants has several heads of departments who are well educated in the university of hard knocks at least. These men give us invaluable information concerning the opportunities in the rolling mill where tin plate is made, the stamping mill where granite ware utensils are made, the Corn Products plant where corn is transformed into a dozen things, the Commonwealth Steel Co. which makes the castings for passenger coaches, and so forth. They are more than welcomed when they come, as you may readily see.

This covers the three fields of industry especially important to us, namely, the professions, commerce, and manufacturing. In all these fields an effort is made to get the speaker in personal contact with the boys and girls who have ambition in that direction and to arrange individual conferences when desired. In fact we go to considerable lengths to get our boys and girls really acquainted with the men who do the employing in our city as well as letting them know what qualifications are marketable on the labor exchange.

We have been carrying on this system for about four years now and the results are beginning to show. Many employers call up the High School the first thing when help is needed. We are generally out of unemployed candidates for positions most of the year, and frequently we are unable to find anyone who will consider changing positions even for a material increase in salary. These reasons lead us to say that our scheme is good and producing beneficial results, but we are anxiously looking for a better one, if it can be found.

THE SCHOOL EMPLOYMENT BUREAU

Principal W. N. Brown, Manual Training High School, Peoria

Twenty-five years ago, the Illinois Schoolmasters' Club voted against having Manual Training in the High Schools. They voted against the sewing-machine, the typewriter, and the work bench for practice work in the High Schools. This year the Federal Government and several States are giving millions to High Schools doing this kind of work. Conditions then did not favor practice work in the High Schools, but in the last few years, there is a universal demand for this kind of work. Vocational education has spread to all the States in the Union. In its development there have come many side issues, or by-products, and the School Employment Bureau is a by-product of vocational education. But the term School Employment Bureau has a different meaning in different cities and when used by different persons.

The School Employment Bureau has little in common with the Government Employment Bureau or with private Employment Bureaus, whose aim is to bring the employer and unemployed together. I can best present the view I have of this topic by giving a brief outline of the organization of a High School where some of this work is done.

This High School has five courses of study—the Agricultural course, the Industrial course, the Commercial course, the Academic course for the professions, and the Domestic Science and Art courses. These five fundamental courses open the way to all industrial occupations, trades, and professions. All the boys and girls of the community may find help in school for the work they undertake. This school, through its special teachers, brings a large fund of apprenticeship information, and through our magazines and libraries, much vocational information of the world's work is brought to the students and opens the way for the need of vocational guidance in the High Schools. One of the chief aims of all this work is to raise the vocational intelligence of the community.

One of the greatest changes such a school brings to the community, is in the time of choosing work, which is at fourteen years of age instead of eighteen. That is, the Freshman of fourteen years of age is asked to choose his work, and then the course of study naturally follows. He then studies employment all the four years so that the employment idea becomes a constant question in the school and in the community, and employers begin to look to the school for help, for workers, and it is their request for help and offers for positions that open the way for the School Employment Bureau. It is the practice work in the schools, and the learning of apprenticeship information, and the coming of employers for your students, and your cooperation with employers, that makes what is called a School Employment Bureau. The school should not go out and seek positions for students except in rare cases. The school must keep on the defensive and not be the aggressor in advancing this work, so as not to take on more responsibility than can be carried, nor more work than they can do.

When the school becomes established in the community service, and students and parents and employers look to the school for aid and employment, then trouble begins. For example, if a strike in one of the industries occurs, will the boys go out with the strikers, or will they seek the jobs the men have left, or will they stay in school? This will certainly give the Employment Bureau something to do, and sooner or later there must be understandings with the labor leaders.

There must be a new relation established with the industries in arranging for advanced pay, an advanced standing in apprenticeship work for the boys who have spent three or four years in High School. For if they cannot get advanced pay, and the journeyman's apprenticeship standing in the trades, the boys from the Grammar School will pass around

High School and go to work at once, because in the industries they get their pay along with their apprenticeship work, and your High School will fail. And this will compel you to have trade agreements in industries, which at the very best is a difficult task.

In the selection of boys for the different occupations, some for bricklayers, plumbers, carpenters, mechanics, pattern-makers, bookkeepers, etc., the parents of the boys must do the choosing, and here again the School Employment Bureau keep on the defensive, and be not aggressive in assigning boys to their life's work. And this will require much closer cooperation with the parents than there has been in the past. In regard to the boys, the school gives them employment, or secures employment for them, and boy nature will have to be dealt with. For example, a boy is sent to the High School to a certain place for employment where they want him, and being a High School boy, he walks into the store with considerable importance and asks the manager, "What do you want me to do?" The question and the tone of voice will cause the manager to look the boy over and very likely say, "I don't want you to do anything. Get out of here." And the School Employment Bureau gets a jolt. Another boy is sent to a place for employment, and with hat tipped on the back of his head will walk in and say, "What are you going to pay me?" And here the tone of voice and the question will cause the manager to look the boy over, and say, "I won't pay you anything. Get out of here." And the School Employment Bureau gets another jolt. A third boy is sent out and to the position and goes to work and, with an eye on the clock, works through the day waiting to hear the whistle blow and get his \$1.50 a day, after a few days loses his position. And this brings home to the School Employment Bureau that if vocational work in that school is to be a success, the boys must be taught to take an interest in their work and go to work in the spirit of wanting a chance to make good. And it is the experience of these boys who go out to work, that the School Employment Bureau may add many valuable suggestions for carrying on practice work in the schools.

There is danger of employment or the earning power in the school making the school exclusively vocational. Employers will come in, look over the classes at work and say to you that if you will keep this or that group of boys at work on certain machines two or three months of a term and speed them up at their work, so that more money can be made out of them, they will take them and pay them advanced wages.

If a school attempts to secure employment for students, parents may feel pressure in making the school almost wholly vocational, hoping to increase their earning power and get them to work as early as possible. Dealing with working people, you will find many of them need or think they need to have the children at work. A workman's family history is not as follows: plenty of money the first few years, but as children come home, expenses increase and by the time they have been married five or thirteen years, and much of the romance of life is gone, the same the working people face is very strong against the idealism held by the school. The work of the School Employment Bureau is to convince these people that it is worth while for the children to come to school, the larger share of the work the School Employment Bureau has to do is to help keep students in school, so they may get better places when they do quit school. In other words, the work of this department is not to get employment for the boys and girls when they ask for it, but to help them from getting employment and hold them in school until they are better prepared, and securing these students positions comes at the end of a long series of efforts in their behalf. The greatest work for the School Employment Bureau for most pupils is to help keep them from leaving employment until they are prepared for better places. The Employment Bureau in itself is a subject of study. It is about 99% personal and human nature and 1% clerical or office work. The personality

of teachers, students, parents, and employers is about all there is School Employment Bureau—in other words, human nature; and as human nature is the one missing science, the School Employment Bureau founded on the most changeable foundation. It changes as the facts change, and changes with the community, and varies according to work of the community and the kind of men who lead in this work. Successful School Employment Bureau depends on knowledge of life, the world's work, and on trained judgment.

THE GRAND RAPIDS PLAN

Principal W. L. Goble, Elgin

(The executive committee of this section had Principal Goble of Elgin as a member of the committee, make a trip of observation to Grand Rapids to study at first hand the system of Vocational Guidance inaugurated there by Principal Jesse B. Davis. This report is especially interesting for this reason.)

The plan of vocational guidance in force in the high schools of Grand Rapids was worked out by Principal Jesse B. Davis of the Central High School. It has as its basal idea not the education of the pupil in, or for, a vocation; nor the teaching of vocational information as such. It means, as Mr. Davis puts it, "The gradual unfolding of the pupil's better understanding of himself; it means the opening of his eyes to the broad range of opportunity in the world; it means a selection and a preparation for his own best field of service as a social being." While the plan recognizes the value and need of injecting the vocational element into all the work in the school it aims rather to evolve the vocational idea in the consciousness of the pupil, to bring about "serious thought upon the part of the pupil regarding himself and his future mission in the world."

"For the work to be effective it must reach all pupils throughout their course." English is the only subject that gets all the pupils throughout their course. So English is selected as the subject through which the plan definitely works. A large part of the composition work in the Grand Rapids schools from the seventh grade up has to do with vocations, interests and purposes. A great variety of subjects has been thought out. These have been grouped and arranged into a progressive order and assigned to a given year and semester. Plenty of choice is given and a large enough latitude to bring the subject within the range of the pupil's interests and experiences. In a visit to two of the Grand Rapids high schools on the same day I found a class at each school in oral English at work on typical themes as outlined in Mr. Davis's book on Vocational and Moral Guidance.

Mr. Davis holds that right vocational guidance and moral guidance are inseparable—"that vocational guidance is in itself moral, and that moral guidance without application to life's purpose is of little value," also that "to the young people of this generation, the strongest plea for morality is in its close connection with their own possible chances of success in life." So in the Grand Rapids plan moral guidance is not separated from vocational guidance and towards the end of the course takes the main emphasis.

The Grand Rapids plan recognizes that the academic curriculum from the seventh grade gives little opportunity for the pupil to test out his own powers and find his capabilities or deficiencies; and also that the usual training that is generally offered gives little chance to disclose the aptitudes and likes of the pupil. However, "the Junior High School with its departmental organization for the seventh and eighth grades, presents a splendid opportunity to offer prevocational work. While each pupil should take the fundamental branches of English, arithmetic, and geography, history, he should every day have a period for some vocational course."

liking." Mr. Davis is anxious that the emphasis in this course shall be placed on skill in doing the work or training for that work as a vocation, but upon the opportunity it affords the pupil of finding his fitness or unfitness for the given "work undertaken and that he get into the right line of endeavor as soon as possible."

Besides this opportunity for finding himself through the work of the vocational course, "the pupil must also have an opportunity to broaden his vision of the great call of the world. He must be lifted out of his narrow environment that his ambition may be aroused, that he may catch a glimpse of the vast fields of labor that are before him, and that he may possibly find in the outlook some compelling purpose that will lead him to success." Outside of the inspiration and guidance that a wise teacher can contribute to this vision, the serious attention and thought of the pupil "that will lead him to his vision" can best be obtained through his reading and his exercises in English composition.

The purpose set for the seventh grade composition in the Grand Rapids plan is to arouse the ambition of the pupil. Such subjects for themes as the following are suggested: "My hero or heroine"; "My favorite games"; "My happiest day"; "The kind of home I should like to have"; "The kind of man (or woman) I should like to be"; "What I should like to make"; "What I will do when I grow up".

In the eighth grade the pupil is face to face with the proposition of going to the high school to get preparation for a vocation or of going into some occupation immediately. So the subjects for composition are selected with the thought of making the most of the opportunity and the interest that goes with it. Here are some of the subjects: "Hunting a job"; "What I could do if I left school after graduation from the grades"; "What some boys are doing who left school"; "What course I intend to take in the High School"; "What is an education worth in money"?

The reading of the pupils at this stage should have the vocational element in it. Vocational excursions are specially valuable at this time. The stereopticon and moving pictures should be used with subject matter designed to keep the vocational element prominent.

The ninth grades are selected as the place to stress the elements of character that make for success and to clear up ideas as to what real success is. The general theme for composition work for the first semester is Self Analysis. The purpose is not to find vocational tendencies, but to reveal the pupil to the teacher and to himself. Some of the subjects are "The history of a school day"; "How I prepare my (History) lesson"; "My habits"; "My natural ability"; "My inheritance"; "My health"; "The part I should like to play in high school"; "Am I a leader or a follower"?

The reading of this period should bring out those elements of character—habits, virtues and faith—which stand out prominently as the very foundation of success, and without which our heroes would have been common mortals.

In the second semester of the ninth year character study is continued through biography in connection with theme work as usual. Subjects selected are: "A character sketch of some successful man or woman"; "My idea of a successful man (or woman)"; "Why I should succeed"; "The value of a fixed purpose in life"; "The cost of success—work"; "The best kind of capital: money, health, brains or character"; "The qualities that make for success in each of the following positions: captain of football team, cheer leader, manager of track team, class president, literary editor or business manager of the school paper".

I think I could not hope to have you follow with interest the definite plan of composition work for each semester of the course. But a plan is laid out and the teachers are following it in a fine, constructive and enthusiastic way; for these teachers have worked with Mr. Davis in developing the plan and making it more than a form. Some of the high points in the

sceme in brief include the listing of the various vocations, their cations, a listing of those open to boys and those open to girls; a study things one must take into account in choosing his vocation; the p tion one should make for a given occupation; how a given study wi tribute to one's preparation for a given work; the selection of instit of higher education in preparation for a given occupation. Finally fourth year the social and ethical obligations of one's vocation ar opportunities for service it offers are considered and made a subj composition.

(At this point Mr. Goble told of the work he observed in two in English. One was in oral composition on "My choice of a college" other was in a senior class and took the form of the giving of repo the study of the social aspects of some public institution.)

Mr. Davis's plan of vocational guidance involves also the in of the vocational element and end into all studies. One cannot we that the high schools of Grand Rapids are succeeding better than other s in getting vocational matter, method and aim into all their course they are more consciously attempting that than the average high s (Here Mr. Goble told how he saw it being done in a class in History

The plan recognizes the place of the counselor in a systematic s of vocational guidance. Every teacher, especially the teacher of En becomes a vocational counselor. But the distinctive work as counse limited to Mr. Davis as chief and to one teacher in each building. plan of handling the session room work is rather unique. Inste grouping the pupils by classes freshmen are put in with seniors grades are together. The group stays with the one session room teach through the course. Class distinctions and class consciousness are up for the sake of closer acquaintance between the pupil and his s room teacher and his advisor.

A general discussion of vocational guidance in the high s then ensued.

It was decided on motion to have this same theme of "Voca Guidance in the High School" made a part of next year's pro

It was decided by the Executive Committee of the Confe to ask the High School Principals' Association to organize a Administrative Section of the Conference. Favorable action o matter was taken by the Principals' Association at a meeting at one o'clock on Friday, November 23. At this meeting it was that the officers of the Association constitute the executive com of the Administrative Section. The officers elected were: Pres Principal L. W. Smith, Harvey; Vice President, Principal T M. Deam, Decatur; Secretary, Principal George E. Ansbaugh, F City; Treasurer, Principal A. J. Burton, Rock Island.

At the afternoon session the Section listened to a very s lating address by Dr. Luther H. Gulick on New Military Ide Physical Training. The Section then resolved itself into the School Athletic Association to consider the application of new adopted the previous year to the conduct of interscholastic eve

AGRICULTURAL SECTION

Forenoon Session

The Agricultural Section of the High School Conference was called to order at 9 A. M. by Chairman T. R. Isaacs, of Decatur.

Minutes of last year's session were read and approved.

The following committee for nomination of permanent members of the executive committee was named: Mr. T. W. Clarida, Mr. J. J. Lacey, and Mr. Paul Leach.

The following program for the morning session was given:

- (1) *Paper*: "Laboratory Work in Farm Crops", by Winfield Scott, Urbana.

Discussion: Mr. E. H. Walworth, Urbana.

Manuals of farm crops were distributed among the members of the Section.

- (2) *Paper*: "Laboratory Work in Animal Husbandry", by Alfred Tate, Rollo, Ill.

Discussion: Mr. Hobson, Charleston, Illinois.

Afternoon Session

Dean Eugene Davenport gave an address on "Contribution of Agriculture to Economic and Civil Welfare of Our Country".

Mr. P. E. Fleming of the State Council of Defense presented the plans of the United States Boys' Working Reserve, and plans were discussed for the enlistment of high school boys in this organization to study special courses in agriculture during the coming winter preparatory to going to the farms in the spring and summer to assist in food production. Much interest was manifested by this Section in all these discussions.

Professor A. W. Nolan of the College of Agriculture explained the plans and organization of the Smith-Hughes Vocational Bill as it will be applied in Illinois.

Upon motion the Conference Section voted to petition the State Board of Education to maintain a system of vocational education under this bill in the present system of schools.

The Chairman appointed Mr. D. H. Wells, Litchfield, Illinois, and Mr. A. W. Nolan, Urbana, as members of the Conference Committee on the Correlation of Science Work in the High Schools of the State.

The Chairman appointed Mr. H. F. Crosby to present the three-minute report of the Section proceedings to the general Conference.

The nominating committee recommended the following members for the Executive Committee: Mr. A. H. Lancaster, McNabb, Illinois; Mr. H. F. Crosby, Armstrong, Illinois; Mr. D. H. Wells, Litch-

field, Illinois. The Executive Committee then chose Mr. D. H. Wells Chairman of the Section for next year.

The committee now stands: Mr. D. H. Wells, Litchfield, Illinois, chairman 1920; Mr. A. H. Lancaster, McNabb, Illinois, 1919; Mr. H. F. Crosby, Armstrong, Illinois, 1918; Mr. J. H. Greene, University, 1918; Mr. A. W. Nolan, University, secretary, 1919.

T. R. ISAACS, Chairman

A. W. NOLAN, Secretary

Following are the papers presented at the morning session:

LABORATORY WORK IN FARM CROPS
Compiled by Winfield Scott, Urbana

Experiment I

Purity of Seed

One of the most important means by which weeds are introduced and spread is by the farmer himself, in sowing impure seed. Cheap seed nearly always contain more or less weed seed, and an unreliable seedsman may sell low grade seed at a high price.

This exercise is given in order to help the student to learn the common weed seeds by coming frequently in contact with them and to get practice in examining seed for quality.

Obtain as many samples of seed of red clover, alfalfa, timothy, alsike clover as possible when the seed is hulled or threshed, also commercial samples from seed companies.

Material needed will be a small forceps for separating seed, a tripod lens or other small magnifying glass.

Take a 5-gram sample of the seed and separate it into two parts, pure seed and impurities. Impurities include weed seeds, other crop seeds and inert material.

Identify the different kinds of weed seeds by comparison with your sample cases or published material, and determine the number.

From this find the number in a pound of the sample, and the number that would be sown per square rod at the ordinary rate of seeding per acre. If balances are not available, a slightly rounded teaspoonful of clover is approximately 5 grams.

What adjective is applied to weeds which are so dangerous that a sample containing only a small amount of their seed would be condemned?

Fill out a blank ruled as follows for the report:

Name of Sample.		Identifying Mark.			
Weed seeds present		Number per 5 grams	Number per pound	Number per sq. rod at — pounds per acre	Would you accept this seed to sow on your farm?
Noxious	Common				

Weed seed sketches drawn by F. H. Hillman may be found in Michigan Bul. 260. The Seed Laboratory of U. S. Department of Agriculture will supply sheets with small sketches. The best plan is for the student to make his own collection of all the weeds found in the locality, then use the sketched material for those not commonly found. Such a collection must be begun by the first of July in order to get seeds of all the common weeds.

Experiment II

Source of Plant Food

A. Before Roots and Stems and Leaves are Formed.

1. Plant several beans in soil (sandy preferable) and place in a favorable room for germination. When the cotyledons have just appeared, remove them from one-half of the plants, using a sharp knife. Compare the growth of the two lots for a week and write up conclusions.

Using a sharp knife, remove the outer part of several corn kernels, taking care not to injure the germ. Plant the germs from which the endosperms have been removed, together with an equal number of whole grains. Note the growth of these plants, noting color, size, vitality, etc.

Write up notes giving your conclusions.

B. After Roots, Stems and Leaves are Formed.

1. Burn two to three quarts of sand until all the organic matter is destroyed. Place into two pots equal amounts of this burnt soil. Plant three to four beans in each pot and water with distilled water if convenient. Rain water is not so satisfactory. Why? To one add a soil solution made by soaking the soil near a manure heap and filtering. At the end of five weeks give your conclusions and write up results.

1. Fill one vessel with soil and a similar one with water. Plant corn or beans in each. What happens? Why? What are the sources of plant food material? How many good reasons can you give why farmers ought to know these things? Tabulate your reasons under:

- a. Seed selection.
- b. Soil selection.
- c. Cultivation.

3. Fill two pots with soil and plant beans. Place one in the window. Put the other in some dark place and cover with a mason jar firmly packed into the soil. At the end of four or five weeks note final results and write up your conclusions. What is photosynthesis?

Experiment III

Heat and Germination

Fill two to three pots with the same number of seed (beans will do) and keep at room temperature and a lower temperature, about 35 to 40 degrees F. Note the time required for the seed to reach the surface and the rate of further growth. What practical application can be made of these facts? Look up and learn the favorable temperatures for germination of the common farm crops.

Experiment IV

Plant and Water

Use a seedling of bean or pea in a pot about one quart in capacity. Cut a circular card board just fitting the top of the pot. Make a slit to the middle and cut a hole just large enough for the stem. Fit the card board carefully and seal the edges to the pot with paraffin. Cover the plant with a mason jar. Set the pot into a very shallow basin of water, leaving the drain hole open. If the soil is of normal moisture when placed in the pot, the future moisture will be supplied by capillarity. Note the contents of the mason jar at regular periods and give reasons. How may the plant be insured sufficient water during the growing season?

Experiment V

Depth of Planting and Rooting Habits

a. Secure a box something like a cigar box. Replace the lid with a glass similar to a window pane. The depths should be at least eight inches. Plant corn at various depths, letting the kernels press against the glass. Cover this side when not observing. Why? Which plants reach the light first? Is this important? Why? Where are the first roots? In a few weeks again locate the roots. Are they in the same place with reference to depth? In which plants have the changes taken place? How will these facts influence your method of cultivation?

b. Visit a corn field. Select a hill of three or four stalks. (The field average stand). This hill should be surrounded by four hills of three or four stalks. Why? Draw a line parallel to the row thru the hill. This should be at least four feet long. With this edge as a side, dig a hole two and one-half feet wide and two to three feet deep. Keep the edge next to the hill smooth. When at the desired depth, wash down the side smoothly and reclean the hole. Now study the depth, extent, and number and size of roots. What determines whether the roots are deep or shallow? How deep are they in this plant? Is this depth usual? Why? Will you cultivate deep or shallow? Will the season influence your practice? Name the principles which bear upon this question of cultivation.

Experiment VI

(Circular Two, Extension Department, Ames, Iowa)

Yield According to the Number of Ears to the Stalk

1. Get permission from a farmer to allow the class to go to his corn field and husk half as many plots as there are pupils in the class.
2. Sacks and scales will be needed.
3. Each pair select a representative plot 10 hills square.
4. Count the stalks in the plot having two or more ears, both of which are worth husking. Number of stalks----- Number of ears-----
5. Husk and weigh the corn from these stalks. lbs.----- oz.-----
6. Count the stalks having only one ear worth husking. Number-----
7. Husk and weigh the corn from these stalks. lbs.----- oz.-----
8. Count the number of suckers -----
9. Count the number of suckers bearing ears -----
10. Count the stalks having no ears -----
11. Count the stalks having smut -----
12. Count the ears affected by the corn-ear worm -----
13. Count the ears for good seed -----
14. Carry all the corn husked by all the pupils to some place agreed to with the owner.
15. Report to the owner any information he wishes. Men who accommodate you should receive the fairest of treatment.

Experiment VI—Continued

1. Total number of stalks in plot -----
2. Number with ears ----- % of total -----
3. Number without ears ----- % of total -----
4. From the total weight find the weight of the average ear -----
5. From the total weight of corn from stalks bearing two ears find the weight of average ear -----
6. Find the average weight of the ear from the one-ear stalks.-----
7. What percent is 100 hills of the number of hills on one acre? The number of hills 3.5 x 3.6 feet is 3556. Can you confirm this?-----
% -----
8. Find the percent of stand -----
9. How much is the yield reduced by disease and barren stalks? -----
% -----

What is the Best Stand of Corn for a Given Field?

1. **Sacks and scales will be needed.**
2. **Each pair of pupils will select four representative plots of 10 hills square.**
 - a. **Plot I.**
 1. **Number of hills having four or more stalks** -----
 2. " " " **three stalks** -----
 3. " " " **two stalks** -----
 4. " " " **one stalk** -----
 5. " **of barren stalks** -----
 6. " **of hills without any stalks** -----
 - b. **Secure the same data for plots II, III, and IV.**

[illegible]

Best Stand—Continued

1. Transfer the total counts at the bottom of the first data sheet to this one.
2. Compare the class reports.

	No. of hills	Wt. of corn	No. of hills	Wt. of corn	No. of hills	Wt. of corn	No. of hills	Wt. of corn
Totals of hills and Weight of corn								
Average weight of corn per hill (divide total of weights by total of hills)								
Average yield in bu. per acre 3556 hills								
Considering the highest hill yield a perfect stand the % for each is:	For 4 stalk hill	%	For 3 stalk hill	%	For 2 stalk hill	%	For 1 stalk hill	%

If the average four stalk hill produces 2.7 lbs. of corn, the average three stalk hill 3 lbs., the average two stalk hill 2.4 lbs., and the average one stalk hill 1.5 lbs., then the highest producing hill is the three stalk hill of 3 lbs. This then becomes 100%; four stalks, 90%; two stalks, 80%; and one stalk, 50%. The three stalk hill is then the best hill. What are the factors which may influence this? Be sure to give all.

1. From your figures which number of stalks per hill gave best results?
2. What is the loss per acre by having other than less stalks in number per acre?
3. Is this a fair way of finding the best stand? Can you give something better?
4. Does your opinion agree with the average grower's opinion in your community?
5. Why have these men arrived at their opinion? Is their reason sound?

Experiment VIII

FIELD STUDY OF CORN PLANT—(Checked Corn)

[illegible]

Data should be recorded on all main stalks and such suckers as bear corn.

Record the measurements for 6 and 10 in inches.

Use common fractions to express the smaller divisions in any measurement or weights.

- (1) Number the hills according to the directions of the instructor.
- (2) Stalk No.—(a) Number the stalks 1, 2, 3, etc.
(b) Under suckers refer to the number of the stalks bearing suckers.
- (3) Number of suckers—Record the number on each stalk.
- (4) Number of ears—Indicate number on each stalk. Ears should be counted even though only a few kernels are borne on the cob.
- (5) Height of stalk—Measure to top of tassel. If the stalk is broken and the broken part is detached, indicate with an X to show that the height could not be measured.
- (6) Stalkiness—Very stalky (VS); stalky (S); medium (M); poor (P); very poor (VP).
- (7) Number of nodes bearing brace roots—Record total number of nodes which bear brace roots.
- (8) Number of Node Bearing Ear—Count from first node visible above ground. If two ears are borne, record for each in the same space.
- (9) Number of Nodes—Count from first node visible above ground to the beginning of the tassel.
- (10) Height of ear—Measure the height from the ground to the node bearing the ear. If more than one ear, record height of each in the same space.
- (11) Angle of Ear—Erect (E); medium erect (ME); medium (M); medium drooping (MD); drooping (D). Record in the same shape the angle of each ear borne on the same stalk.

*Experiment IX***A FIELD STUDY OF CORN (CHECKED CORN)**

1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
Hill Number	Main Stalks in Hill	Main Stalks Bearing Suckers	Number of Suckers	Suckers Bearing ears	Barren Stalks	Broken Stalks	Smutted Stalks	Hill Number	Main Stalks in Hill	Main Stalks Bearing Suckers	Number of Suckers	Suckers Bearing ears	Barren Stalks	Broken Stalks	Smutted Stalks
1								1							
2								2							
3								3							
4								4							
5								5							

Continue to 25 inclusive.

SUMMARY	Entire No.	%100	EXPLANATION OF THIS FIELD
(a) Hills -----			-----
(b) Main Stalks ----			-----
(c) Main Stalks Bearing Suckers -----			-----
(d) Suckers -----			-----
(e) Suckers Bearing Ears -----			-----
(f) Barren Stalks ----			-----
(g) Smutted Stalks--			-----
(h) Stalks per Hill--			-----
(i) Per cent stand--			-----

EXPLANATORY NOTES

- (1) **NUMBER OF HILLS**—Hills are to be recorded consecutively, including those without stalks.
- (2) **MAIN STALKS IN HILL**—Count only the main stalks, not the suckers. (See following paragraph for differences between main stalk and sucker.)
- (3) **MAIN STALKS BEARING SUCKERS**—Record number of main stalks bearing suckers. A sucker is a branch from a node of the main stalk, just beneath the surface ordinarily shorter and smaller stalked and has less luxuriant foliage than the main stalk. Close examination just beneath the surface of the ground will show that a sucker is still con-

nected to the main stalk even though it has an independent root system. It may or may not bear an ear.

- (4) **NUMBER OF SUCKERS**—Record the total number in each hill.
- (5) **SUCKERS BEARING EARS**—Record number of suckers bearing ears.
- (6) **BARREN STALKS**—Do not include suckers. A barren stalk is ordinarily referred to as one which does not bear corn. In the strictest sense of the word, however, a barren stalk is one without grooves and does not bear an ear-forming shoot. The former interpretation will be used in recording observations.
- (7) **BROKEN STALKS**—Include all main stalks and such suckers as bear corn. Observations should be recorded whether the broken part is still attached or entirely detached. Do not count stalks that are broken above the ear.
- (8) **SMUTTED STALKS**—Include both the main stalks and such suckers as bear corn. Smut may be recognized by a dark, spongy mass on the stalks, leaves, tassels, or ear.

SUMMARY

- (a) **HILLS**—Record total number spaced. Per cent hills will be 100, or perfect.
- (b) **MAIN STALKS**—In calculating the per cent use three main stalks per hill as a basis for a perfect stand.
- (c) **MAIN STALKS BEARING SUCKERS**—In calculating the per cent divide the total number found by the total number of main stalks.
- (d) **SUCKERS**—In determining the per cent divide the total number of suckers found in the plot by the total number of main stalks plus the total number of suckers.
- (e) **SUCKERS BEARING EARS**—In calculating the per cent divide the total number of suckers bearing ears by the total number of suckers in the plot.
- (f) **BARREN STALKS**—In calculating the per cent divide the actual number found by the total number of main stalks in the plot.
- (g) **BROKEN STALKS**—In calculating the per cent divide the number of each found by the total number of main stalks, plus the number of suckers bearing corn.
- (h) **SMUTTED STALKS**—In calculating the per cent divide the number of each found by the total number of main stalks, plus the number of suckers bearing corn.
- (i) **STALKS PER HILL**—Divide the total number of main stalks by the total number of hills.
- (j) **PER CENT STAND**—Identical to per cent main stalks (b) above.

SUMMARY OF EXERCISE IX—FIELD STUDY OF CORN PLANT

Student's name Date.....181..

Laboratory Section Corn Row Number.....

	Total Number	Per Cent
(1) Hills	-----	-----
(2) Main stalks	-----	-----
(3) Main stalks not bearing an ear	-----	-----
(4) Main stalks bearing only one ear	-----	-----
(5) Main stalks bearing two ears	-----	-----
(6) Suckers	-----	-----
(7) Suckers bearing ears	-----	-----

EXPLANATORY NOTES

In calculating per cent for the above, the basis for each should be as follows:

For (2)—Use 3 stalks as a perfect stand.

For (3), (4), (5), and (6)—Total number of main stalks found.

For (7)—Total number of suckers in plot.

	Average
(8) Height of Stalk -----	-----
(9) Number of Nodes -----	-----
(10) Number of Node Bearing Ear -----	-----
(11) Height of Ear -----	-----

Experiment X

THE CORN STALK

I. Stalk and Leaf.

A. Drawing: Make a page drawing of a section of a corn stalk; including two nodes and the accompanying leaves—(Leave one leaf in position; pull the other away from the stalk to expose the ligule).

1. Leaf sheath—(attachment at node and over-lapping of edges)
2. Ligule.
3. Auricle.
4. Leaf blade.
5. Veins.
6. Midrib.
7. Stalk.

B. Questions.

1. Which part of the leaf protects the rudimentary ear?
2. Why is the leaf sheath movable on the internodes?
3. What are the uses of the ligule?
4. Are the veins of the leaf parallel or netted?
5. What is the advantage of a wavy leaf margin?
6. Give two functions of the veins and midribs.
7. What functions does the leaf perform?
8. Do the grooves appear on one side of the stalk or are they arranged alternately?
9. Are distinct grooves found above the ear as well as below?
10. On what part of the stock are the internodes shortest?
11. On what part of the stock are the internodes longest?
12. What are the advantages of the internodes arranged as noted in questions 10 and 11?

II. Cross Section of Stalk.

A. Drawing: Draw a cross section of a corn stalk cut midway between the nodes; showing—

1. Leaf sheath.
2. Epidermis of stalk.
3. Woody portion.
4. Pith.
5. Fibrovascular bundles.

B. Questions.

1. What are the three protective uses of the epidermis?
2. What is the purpose of the woody portion?
3. What are the two functions of the pith?
4. What are two purposes of the fibrovascular bundles?

III. Longitudinal Section of Stalk.

A. Drawing: Draw a section of the corn stalk cut longitudinally thru a node, showing—

1. Leaf sheath.
2. Epidermis of stalk.

3. Woody portion.
4. Pith.
5. Fibrovascular bundles.
6. Node.
- B. Question.
 1. At what points on the stem does length growth take place?

Experiment XI

Part I—THE CORN EAR

- I. Cross Section of Ear.
 - A. Drawing: Make a page drawing of a cross section of an ear of corn (germ view of kernels) showing—
 1. Entire cob.
 - a. Pith.
 - b. Woody portion.
 - c. Fibrovascular bundles.
 - d. Chaff.
 2. Eight kernels with attachments showing pairing—(Germ face view).
 - B. Questions.
 1. From what part of the cob do the attachments of the spikelets arise?
 2. Do the germs face toward the tip or butt of the ear?
 3. Do the two rows which constitute the pair dovetail at the crowns of the kernels or are they distinct?
 4. Trace the course of the food supply from the stalk to the individual kernel.
 5. What proportion of the ear diameter is cob.

Part II—THE CORN KERNEL

- I. Longitudinal Section of Kernel (Broadside View).
 - A. Drawing: Make a half-page drawing of a longitudinal section of the corn kernel cut through the germ parallel to the face or broadside, showing—
 1. The Hull.
 2. The Endosperm.
 - a. Flinty, or horny starch.
 - b. White or floury starch.
 3. The Germ.
 - a. Scutellum.
 - b. Plumule.
 - c. Radicle.
 4. The Tip Cap.
- II. Longitudinal Section of Kernel (Edge view).
 - A. Observation: Make a longitudinal section of the corn kernel, cut through the germ parallel to the edges. Examine the same parts as observed in the first drawing.
 - B. Questions.
 1. Does the plumule point toward the crown or the tip of the kernel?
 2. What are two uses of the tip cap?
 3. Has the horny starch or the white starch the more open structure?
 4. What is the function of the style? (The base of the style or silk may be observed on the crown of the kernel as a short hair-like projection).
- III. Newly Germinated Kernel.
 - A. Drawing: Make a half-page drawing of a newly germinated kernel, showing—

1. Kernel.
2. Temporary roots.
3. Stem sprout.
- B. Questions.
 1. What is the function of the endosperm in germination?
 2. What are three purposes of the scutellum in germination?
 3. What part of the plant develops from the radicle?
 4. What part of the plant develops from the plumule?

Experiment XII

SUGGESTIONS FOR PICKING SEED CORN

A—The Plant.

1. Select from a hill with two or more plants, with no missing hills adjoining it. Why?
2. Avoid "barren stalks" as neighbors to your selected plant. Why? Ohio Bull. No. 282.
3. More than one or two suckers on a single plant are undesirable.
4. Select from strong, vigorous plants which are neither broken, leaning, weak, diseased nor abnormal.
5. The ear should be borne at a desired, uniform and medium height. 132 Bull., III.
6. Short, long and weak shanks should be avoided. No. 132 Bull., III.
7. The husks should be ample but not too long nor coarse.

B—The Ear.

8. Select ears which are mature (well dented) on the average date of the first killing frost.
9. The size and shape of ear as well as the number and direction of rows should be uniform. Why? Bull. No. 282, Ohio.
10. The kernels should be regular in indentation, shape and color. Why?
11. Have an ideal type of ear firmly fixed in your mind and search for that kind of ear.
12. Pick several times as much seed as you will need, which will enable you to discard freely after drying the ears.
13. Hang up seed ears to dry on the same day they are gathered. Why? The ears should hang separately where the air circulates freely.

C—The Seed.

14. Seed ears should dry rapidly and fully before the final seed selection is made.
15. Loose, chaffy ears and those having shallow kernels or many irregular ones should be discarded.
16. In testing viability, use five representative kernels from each ear.
17. Discard all ears which do not show full and vigorous germination.
18. Shell each ear by hand into a separate container. Discard irregular and other unsatisfactory kernels.
19. Discard ears showing a large percent of cob.
20. Keep ahead of the season and push the work instead of letting it push you.

Experiment XIII

CORN JUDGING

1. Use the score card for a period or two to learn the points of judging.
2. Proceed to compare judging.
 - a. Secure some way a number of ears (500 more or less) and make up lots of ten ears each.
 - b. Spend some time in comparative judging of single ears in each lot

gradually going to the more difficult work. (This gradation is very important for high school pupils).

- c. Now group the lots so that the first placing of these may be done with confidence. After a brief practice at this make the combinations of lot increasingly difficult. (An ideal ear and an ideal lot of ten ears would be of much value in giving the pupils a basis). Why judge grains?

Experiment XIV

SUGGESTIONS FOR SCORING AND PLACING INDIVIDUAL EARS OF CORN

1. The ears should be arranged consecutively from left to right beginning with No. 1, placing the sample in such a manner that the tray number and the butts of the ears are on the side next to the student. The ears should not be changed from this order at any time.
2. Without picking up the ears two average kernels should be removed from near the middle of each and placed directly in front of the respective ears, with the germs up and the tips pointing towards the tips of the ears. Ordinarily two kernels will be a sufficient number to use as a basis in scoring the different characteristics. If it is necessary to examine a larger number, or if kernels have previously been removed, the new supply should be taken from some other portion of the ear.
3. Unless instructed otherwise, do not deduct less than one-fourth point for deficiencies. All fractional points should be recorded as common fractions rather than as decimals. Always record the score given the ear on each characteristic, rather than noting the deduction.
4. All the ears on the tray should be scored first on VARIETY TYPE, then on PURITY OF KERNELS, rather than all of the characteristics of each individual ear marked consecutively. This will give the comparative score of the different ears for each characteristic and should enable the student to make a more accurate rating of the corn.
5. Before totaling the score of any ear, place the ears, 1st, 2nd, 3rd, etc., according to their desirability for seed. After the total score of each ear has been obtained, compare your placement with the ranking made according to the comparative scores.
6. The purposes of the score card are: (a) to present to the mind of the student, judge and grower the essential points to be considered in examining an ear of sample corn; (b) to impress the relative value of these points, placing first those of the greatest importance; (c) to explain and illustrate as much as possible just what these points mean; and (d) to go even further and point out the reason why these points are important.
7. Scoring even by the most proficient is not an exact mathematical proposition to be mechanically followed. Accuracy will depend on the judgment of the scorer and should develop with intelligent direction and sufficient practice.

Experiment XV

CORN GERMINATION (Rag Doll Method)

DIRECTIONS FOR TESTING

(Two students will work together, making one rag doll)

1. Tear sheeting of good quality into strips from 8 to 10 inches wide and 3 to 3½ feet long.
2. Rule cloth lengthwise through the middle and crosswise every three inches leaving 8 to 10 inches unruled for the outer end.
3. Number the sections, beginning with "1" in upper left hand corner, "2" in upper right hand corner, etc.

4. Label edge of cloth towards which kernels point—"DOWN".
5. Thoroughly wet the cloth and spread smoothly on desk, No. 1 at the left.
6. Remove six kernels from representative parts of each ear and place in sections bearing number corresponding to those on the ears.
7. Arrange the kernels side by side in two rows, germs up and all tips pointing towards edge marked "DOWN".
8. Before rolling cloth, study kernels from each ear, estimating the number which are considered Strong, Weak or Dead record in table for Student's Estimated Test.
9. Roll cloth carefully, but not too tightly.
10. Fasten each end with a cord or rubber band.
11. Write your initials and number of sample on outside of roll, and mark with an X the edge of the cloth towards which the kernels point.
12. Place in lukewarm water and soak for 8 to 10 hours or over night.
13. Place roll in a vertical position so that the tips of the kernels point DOWN, and keep roll moist by placing in a box of moist sawdust or by wrapping with a wet burlap sack.
14. When the sprouts are about two inches long unroll carefully and read the test.
15. Read the germination as Strong, Weak and Dead.

Experiment XVI

THE OAT KERNEL AND PLANT

- I. Longitudinal Section of Oat Kernel.
 - A. Drawing: Make a half-page drawing of a longitudinal section of an oat kernel, cut parallel with the groove through the embryo (use a kernel soaked in water), showing—
 1. Endosperm.
 2. Germ.
 3. Seed coat.
 4. Brush.
 - B. Questions:
 1. Which is nearest the base of the kernel, the plumule or the radicle?
 2. What two parts constitute the hull?
 3. Does the palea cover the groove or the back of the grain?
 4. When the kernel is inclosed by the hull, is the germ found at the base or at the tip end?
 5. Is the germ on the groove side or the back of the grain?
 6. Are the hull and kernel attached to each other or are they entirely separate?
- II. Newly Germinated Oat Grain.
 - A. Observation: Examine carefully a newly germinated oat grain, noting particularly the following:—
 1. Temporary roots with root hairs. (Note: Root hairs dry quickly and cannot be seen long after exposing to the air).
 2. Stem sprout.
 - B. Questions:
 1. From which end of the grain does the root sprout appear?
 2. What part of the plant develops from the radicle?
 3. How many temporary roots usually form? (Average 10 specimens).
 4. From which end of the grain does the stem sprout appear?
 5. What part of the plant develops from the plumule?
- III. Young Oat Plant.
 - A. Observation: Examine carefully a young oat plant several inches

high, showing—

1. Unfolding leaves.
2. Stem sheath.
3. Developing permanent or "coronal" roots.
4. Temporary or "seminal" roots.

B. Questions:

1. Are the veins of the leaf parallel or netted?
2. How far below the surface do the permanent roots appear?

IV. Mature Oat Plant.

A. Observations: Examine carefully a mature plant and answer the following questions:—

1. Does the oat have a fibrous or the tap root system?
2. Is the oat a surface or a deep feeding plant?
3. What has become of the temporary roots?
4. How many stems to an average plant? (Count stems on 5 plants).
5. What parts of the stem are hollow and what parts solid?
6. In what order are the leaves attached to the stem?

Experiment XVII

THE OAT SPIKELET, PANICLE AND CULM

I. The Oat Spikelet at Time of Flowering.

A. Drawing: Copy from the chart in the classroom, a page drawing of a longitudinal section of an oat spikelet, showing—

1. Outer glumes.
 2. Two distinct and developed flowers labeling the following parts in only one flower:
 - a. Flowering glume.
 - b. Palea.
 - c. Ovary.
 - d. Style.
 - e. Stigma.
 - f. Filament.
 - g. Anther.
 - h. Lodicule.
 - i. Awn.
 3. One rudimentary or undeveloped flower.
- B. Questions:**
1. How many flowers usually form in an oat spikelet?
 2. From what part of the flower does the kernel develop?
 3. From what parts of the flower does the hull develop?

II. The Oat Spikelet at Maturity.

A. Observation: Examine carefully a mature oat spikelet and note particularly the following:—

1. Outer glumes.
2. The awn (if present).
3. The primary oat.
4. The secondary oat.
5. The Rachilla.
6. Undeveloped third flower.

B. Questions:

1. What other names are commonly given to the outer glumes?
2. Is the outer glume longer or shorter than the flowering glume?
3. Is the outer glume thinner or thicker than the flowering glume?
4. How many grains develop in an oat spikelet (count several spikelets in five panicles)?
5. To what is the awn attached?
6. Define the following terms:
 - a. Oat grain.
 - b. Oat kernel.

- c. Spikelet.
- d. Rachilla.

III. The Oat Panicle (Open or Spreading Type).

- A. Drawing: Make a full page drawing of an open panicle of oats showing—
 - 1. Rachis.
 - 2. Whorls.
 - 3. Branches.
 - 4. Pedicels.
 - 5. Spikelets.
- B. Questions:
 - 1. How many spikelets in an average panicle (Count five panicles)?
 - 2. In what order are the whorls arranged on the rachis?
 - 3. How many whorls on the rachis (Count five panicles)?
 - 4. Define the following terms:
 - a. Panicle.
 - b. Rachis.
 - c. Branch.
 - d. Whorl.
 - e. Pedicel.
 - f. Spikelet.
 - 5. Explain the difference between open and side panicle.
 - 6. State the difference between a spikelet and a panicle.

IV. The Mature Oat Culm or Stem.

- A. Drawing: Make a full page drawing of a section of an oat culm or stem including 2 nodes and the accompanying leaves (Keep one leaf in its natural position and bend the other away from the stem to show the ligule), showing—
 - 1. Nodes.
 - 2. Internodes.
 - 3. Leaf Sheath.
 - 4. Leaf Blade.
 - 5. Ligule.
 - 6. Veins in leaves and stem.
- B. Questions:
 - 1. At what points in the stem are the leaves attached?
 - 2. How many internodes in an average stem (Count five average stems).
 - 3. Upon making a longitudinal section of the stem through the node, what do you notice regarding the thickness of the wall of the stem near the nodes as compared with that between the nodes?

Experiment XVIII

JUDGING OF SMALL GRAIN

1. The use of the score card is to bring out the important points to be considered in judging. Probably less than one week, two laboratory periods should be devoted to score card judging. Then proceed at once to comparative work.
2. Wheat and Oats:
 - a. Small containers about one quart in capacity are very necessary.
 - b. Secure from various farmers 50 different samples of oats and wheat. Grade these so that the earlier judging will be comparatively easy. That is, so that the pupil may see a clear difference. Gradually rearrange the grading until the best lots are brought together. This will enable the pupils to learn the work with some assurance.
 - c. Much time will be required in doing this work and hence should be planned far ahead.

- d. Three weeks—that is, six laboratory periods—can be spent profitably in this work.
- e. The method of procedure must be left to the teacher.

Experiment XIX

TREATMENT OF OATS FOR SMUT

1. Mix a pound (pint) of 40% Formaldehyde into 25 to 30 gallons of water.
2. Use this on about 60 bu. of oats.
3. Pile the oats on a tight floor, spread and sprinkle on the solution, beginning at one side and stirring as one does in mixing concrete. Be sure to have all oats come in contact with some of the solution.
4. A wagon box may be used.
5. Do not make the oats too wet. Why?
6. Cover with sacks, or blanket or tarpaulin and leave for 8-12 hours.
7. Sow at once. Open the drill to sow a peck more to the acre. Why?
8. Or on uncovering spread and allow to dry.
9. Probably 10 to 15 bu. at a time will be enough for most farmers.
10. Do not allow to freeze. Why more likely to freeze now than before treatment? How does freezing injure seed?

Experiment XX

WHEAT—SPIKE, SPIKELET AND KERNEL

- I. Spike—Edge View.
 - A. Drawing: After removing from a head or spike of wheat, all of the spikelets but one (leave a spikelet on about midway of the rachis), make a drawing of the edge view of the entire rachis, labeling—
 1. Spikelet.
 2. Rachis.
 3. Awn.
 - B. Questions:
 1. Are the spikelets arranged alternately or oppositely on the rachis?
- II. Spikelet—Broadside View.
 - A. Make a half page drawing (Broadside view) of a single spikelet attached to the rachis, labeling:
 1. Outer glumes.
 2. Flowering glumes.
 3. Paleas.
 4. Awns.
 5. Undeveloped Flower.
 6. Rachis.
 - B. Questions: Dissect a spikelet, removing each of the parts carefully, and answer the following questions:
 1. How many outer glumes to each spikelet?
 2. How many grains to each spikelet? (Av. of 5 spikelets).
 3. How many undeveloped flowers to each spikelet?
 4. Is the awn attached to the back or to the tip of the flowering glume?
 5. Is the outer glume longer or shorter than the flowering glume?
 6. How many developed spikelets in a spike? (Av. of 5 spikes).
 7. How many sterile spikelets in a spike? (Av. of 5 spikes).
 8. If it were possible to change the spike of wheat, what 3 characteristics might be improved to increase the yield of wheat?
- III. The Kernel.
 - A. Drawing: Make two drawings of a wheat kernel showing—
 1. Bosom View:—(a) Crease. (b) Cheeks. (c) Brush.
 2. Back View:—(a) Germ. (b) Brush.

- B. Questions: From the pans on the table select several representative kernels (at least 10) of both Hard Winter and Red Winter wheat. Cut the kernels in cross-section and after examining carefully make the following descriptions:
1. Describe the endosperm of Hard Winter Wheat as to color and texture.
 2. Describe the endosperm of Red Winter Wheat as to color and texture.
 3. Describe the difference in color between Hard Winter and Red Winter wheat as you see them in the pans. (*Examine in good light*).

Experiment XXI

BARLEY AND RYE

I. The Barley Spike.

- A. Drawing: Remove all of the spikelets from a 6-rowed barley spike except the three that are attached to one node near the middle and draw an enlarged broadside view showing—
1. Rachis with attachment of spikelets.
 2. Outer glumes. (2 to each spikelet).
 3. Flowering glumes.
 4. Awns.

B. Questions:

1. How many developed spikelets are attached to each node in 6-rowed barley?
2. How many developed spikelets are attached to each node in 2-rowed barley?
3. In common barley are the hull and kernel grown together?
4. Are the flowering glume and palea removed from the kernels of ordinary barley when threshed?
5. How many flowers form in one barley spikelet?
6. How many flowers develop in one barley spikelet?
7. Which is the more uniform in size and shape of kernel? 2-rowed or 6-rowed barley? Explain why. (Study threshed grain in pans).

II. The Rye Spikelet.

- A. Drawing: Remove all of the spikelets from a rye spike except the one attached to a node near the middle. Make enlarged drawing of the spikelet (broadside view), showing—
1. Outer glumes.
 2. Flowering glumes.
 3. Paleas.
 4. Kernels.
 5. Awns.
 6. Rachis.

B. Questions:

1. Is the average rye spike longer or shorter than the average wheat spike?
2. Compare the general shape of the rye grain to that of wheat. (*Examine threshed rye and wheat in pans*).
3. How do the outer glumes of rye differ from those of wheat?
4. How many flowers usually form in a rye spikelet?
5. What is the average number of grains per spikelet? (Average of 5 spikelets).

III. General Summary of Flowering Habits.

	Oats	Wheat	Barley	Rye	
Kind of Inflorescence -----					
Number of Flowers formed in average spikelet -----					
Number of Flowers devel- oped in average spikelet---					

Experiment XXII

**RELATION OF KERNEL TO HULL AND COMPARISON STUDY OF
SMALL GRAINS**

I. Relation of Kernel to Hull.

- A. Method of Determining Percentage of Kernel and Hull in a sample of oats:** (1) From each sample on which determination is to be made count out and weigh 200 representative grains. (2) Remove the hulls and weigh the kernels (also weigh the hulls as a check). (3) To determine the percentage of kernel in the sample divide the weight of the kernels by the weight of the grain and multiply by 100. (4) Subtract the percentage of kernel from 100 to determine the per cent of hull.

Kind of Oats -----	Wt. per bushel	Wt. of Grain	Wt. of Kernels	Wt. of Hulls	Per cent Kernel	Per cent Hull

B. Questions: Examine carefully the samples on which the above determinations have been made and answer the following questions:

1. What is the relation between weight per bushel and percentage of kernel and hull?
2. Describe the growing conditions that will increase the percentage of kernel.
3. What factors in addition to those mentioned in (2) above will cause a variation in the percentage of kernel?

II. Comparison Study of Threshed Samples of Oat Varieties.

Oat Varieties	Grain			Awns Present or Absent	Thickness of Hull
	*Size	*Shape	*Color		
Early Champion					
Kherson					
Iowa No. 103					
Iowa No. 105					
Silvermine					
Swedish Select					

*Principal distinguishing differences.

N. B. Descriptive terms.

1. Size—large, medium, small.
2. Shape—spindle, egg, cone.
3. Color—white, yellow, red, black, gray, etc.
4. Hull—thick, medium, thin.

III. Comparison Study of Threshed Samples of Various Wheats, Rye and White Hulless Barley. (Hulls absent in threshed samples.)

Kind of Grain	Comparative Size and Shape of Kernels	Color of Kernel	Hardness of Endosperm
Hard Winter Wheat			
Red Win- ter Wheat			
Spring Wheat			
Durum Wheat			
Rye			
White Hulless Barley			

N. B. Descriptive terms.

1. Compare several kernels of each as to length and circumference, also general shape. For example, the kernels of one kind of grain may be long, medium in circumference and regular in shape, while the kernels of another kind may be long, rather small in circumference, pointed at base end, blunt at tip end, etc.
2. Color of kernel—dark red, light red, amber, whitish, greenish gray, grayish brown.
3. Hardness—hard, medium, soft.

*Experiment XXIII***ROOT HABIT OF WHEAT AND OATS**

Proceed as under instructions for the same subject in corn, Experiment IV. b.

VARIETY STUDY OF SMALL GRAIN**DESCRIPTION***Straw Characters*

Length
Weight
Number internodes
Diameter 1
Breaking strength 2
Remarks 3

Head Characters

Length
Weight
Number spikelets developed 4
Number of spikelets rudimentary 4
Character of Awns 5
Fertile florets per spikelet 6
Remarks

Kernel Characters

Number kernels missing 7
Number kernels present
Average weight
Average length 8
Average width 9
Consistency 10
Remarks

PERFORMANCE RECORD

Stand 11
Gross weight 12
Weight grain
Remarks

EXPLANATION

1. Take the diameter at place where the breaking test is to be made. See Note 2.
2. In order to obtain results that shall be comparable, some definite internode should be selected for this test and maintained thruout the series.
3. This space is for any other notes of special interest not provided for in this list.
4. There are usually a small number of the lower spikelets that remain entirely or partially rudimentary. Distinguish these from the developed spikelets.
5. If present, describe any striking peculiarities regarding length, straightness, etc.

6 Fertile florets are those that bear kernels. The number varies from spikelet to spikelet. Note merely the characteristic number, which in some instances perhaps might be expressed best by two numbers, e.g. "2-3".

7. Missing kernels are usually easily counted by the empty glumes and the count should be made before the kernels are shelled out.

8. Measurement made by placing ten representative kernels end to end.

9. Place these kernels side by side.

10. Relative hardness which is best observed by comparison with some set of standards by cutting or biting.

11. Refers to the number of plants in the row at time of harvest.

12. Combined weight of straw and grain taken before threshing.

Experiment XXIV

SMALL SEEDED LEGUMES

I. Observation of plants. (A detailed study of the plant characteristics will be made in the field the latter part of May).

A. Describe in sentence form the height and coarseness of stems and size of leaves of the following legumes:

1. Red Clover (*Trifolium pratense*).

2. Mammoth Clover (*Trifolium pratense perenne*).

3. Alsike Clover (*Trifolium hybridum*).

4. White Clover (*Trifolium repens*).

5. Crimson Clover (*Trifolium incarnatum*).

6. Sweet Clover.

a. Biennial White (*Melilotus alba*).

b. Biennial Yellow (*Melilotus officinalis*).

c. Annual Yellow (*Melilotus indica*).

7. Alfalfa (*Medicago sativa*). 3 Shapes:

II. Drawings:—Draw a quarter page broadside view of the seed of each of the legumes mentioned above, making the size of each drawing proportional to that of red clover.

III. Observation of Seed.

A. Describe in outline on ruled paper the seed of each of the above legumes according to the following Descriptive Terms.

1. Size (Compared with Red Clover).

a. Length.

b. Width.

c. Thickness.

2. Shape (Where more than one shape is found mention the different kinds and state the approximate proportion in which each is found).

a. Outline form.

(1) Viewed from largest diameter—round, oval, kidney, elliptical, heart.

(2) Viewed from smallest diameter—(a) round, oval, slightly flattened, distinctly flattened.

b. Radicle.

(1) Length—Compared with the width of the seed.

(2) Prominence—scarcely visible, distinctly visible.

(3) Tip—prominent, not prominent.

3. Color. (Where more than one color, give the different kinds and state them in the order in which they predominate). Blue, violet, purple, brown, yellow, green, red, black, etc.

4. Surface. (a) Smooth, medium rough, rough; (b) Glossy, semi-glossy, dull.

5. Hilum—Round, oval, elongated.

*Experiment XXV***LARGE SEEDED LEGUMES FIELD PEAS, SOYBEANS AND COWPEAS**

- I. Description of plants:
In a separate statement for each—field peas, soybeans and cowpeas—describe the plant characteristics as to—
 - A. General size.
 - B. Habit of growth—erect or vining.
 - C. Coarseness of stem.
 - D. Pubescence.
 - E. Size of Leaf.
 - F. Length of attachment pods.
 - G. Number of seeds per pod.
- II. Description of Seeds:
Describe and compare the following—field pea, soybean and cowpea varieties,—according to the Identification Outline given below:
 - A. Varieties of each crop.
 1. Field peas.
 - a. Golden Vine.
 - b. Prussian Blue.
 - c. Canadian White.
 - d. Marrow-fat.
 2. Soybeans.
 - a. Ito San.
 - b. Medium Early Yellow.
 - c. Medium Early Green.
 - d. Mammoth Yellow.
 - e. Black Eyebrow.
 - f. Manchu.
 - g. Black Beauty.
 3. Cowpeas.
 - a. New Era.
 - b. Whippoorwill.
 - c. Black Eeye.
 - B. Identification Outline.
 1. Size—large, medium, small. (Compare the different varieties of each crop with each other instead of comparing one crop with another).
 2. Shape—globular or round, kidney, rhomboidal, etc.
 3. Color—blue, green, white, cream, yellow, buff, black, mottled, etc.
 4. Surface—smooth, slightly wrinkled, prominently wrinkled.
 5. Hilum color—pale, brown, black.

*Experiment XXVI***COMMON FARM WEEDS**

1. Curled dock
2. Lamb's quarter (Pig Weed)
3. Russian thistle
4. Rough pigweed
5. Wild carrot
6. Wild parsnip
7. Field dodder.
8. Jamtown weed (Jimson weed)
9. Broadleaf plantain

10. Bracted plantain.
11. Buckhorn
12. Crab grass
13. Foxtail
14. Quack grass
15. Ragweed
16. Smartweed
17. Cockle bur

Do you know them? Do they multiply by seeds, roots, or by both? Are any beneficial? Are they annual, biennial, or perennial? What of it?

Experiment XXVII

INOCULATION OF LEGUMES

A. Glue Method.

1. Make a solution of glue by dissolving 7 to 8 oz. of glue in one gal. of water.
2. Sprinkle this over 6 bu. of seed.
3. Sprinkle enough inoculated soil (one quart per bu. has been found to give good results) over the moist seed to absorb the water.
4. After thoroughly mixing screen to insure separation.
5. Plant within one day.

What precautions should one take to prevent the seed spoiling?

B. Spreading Soil Thoroughly Inoculated Over the Field.

1. Secure soil from some field which contains the organism desired.
2. Spread 100 lbs. of this soil per acre.
3. If the inoculated soil is spread over the ridges and higher parts of the field rain will soon carry the organisms over the field.

Experiment XXVIII

If sufficient care is used clover or peas may be grown to show the value of inoculation.

1. Place soil known to be free from the bacteria in a pot and plant the legume.
2. In another pot plant a similar legume in soil known to have the bacteria.
3. Note the growth for some time and draw conclusions.

LABORATORY WORK IN ANIMAL HUSBANDRY

Alfred Tate, Rollo, Illinois

I take it for granted that there is no longer any question but that agriculture does have its place in the high school curriculum. There is probably a question, however, as to the importance of animal husbandry as a branch of agriculture, and there is probably a question as to the relative amount of time which should be devoted to that particular branch of agriculture.

In answering these probable questions I shall speak first of the importance of animal husbandry, for if it is not important, if it is a dead issue, it would be very foolish to waste time in teaching it. Let me say in beginning that I think there is no more important branch of agriculture than animal husbandry, and I think it is no less important now than it always was. I know we have those advocates of, so called, strictly grain farming who tell us that it is easier to maintain the fertility of our soil without keeping any live-stock. I know they tell us that eating meat is very expensive and very injurious. I know they tell us that tractors and auto trucks are taking the place of horses. I do not think I am at all prejudiced in this matter. I want to give the arguments in favor of grain farming credit for what they are worth.

It is possible to maintain the fertility of our soil without keeping live-stock, but statistics and experience show, taking all farmers into consideration, that the fertility is best maintained by the live-stock farmer. The most prosperous farmers of today are the live-stock farmers. It is a fact that the large majority of the county agricultural advisers of this state, even though they were advocates of grain farming in the beginning, are now advising their patrons to keep more live-stock. It is true that many people eat more meat than is best for them, but the strongest nations of the world are, and always have been the meat eating nations. The most intelligent and most progressive people of the world are the meat eating people. We never have found, and never will find a substitute for good wholesome meat, butter, eggs, milk and animal fat. We have never found anything that would take the place of leather for the manufacture of shoes. Nothing will ever equal woolen clothing for warmth, comfort and beauty. The demand for good draft horses for short hauls in the cities of New York and Brooklyn is increasing instead of decreasing. Nothing is more attractive than a beautiful horse. The horse show is still the grandest show of all shows, and no race is quite so exciting as a horse race. Just so long as all this is true so long will there be a demand for live-stock. The demand is greater now than it has ever been, in fact the demand is far in excess of the supply.

The point which I have been trying to make clear in this rather lengthy discussion is that animal husbandry is an important subject. It is not a dead issue as many manufacturing establishments and some others would have us believe.

There are two every good reasons why animal husbandry should be taught in the public schools. In the first place we all know that there is no industry or business enterprise which is carried on less scientifically, more carelessly and less efficiently than that of agriculture; and observation leads me to believe that animal husbandry is the one special branch of agriculture which suffers most. Statistics show that one-third of the dairy cows of the state are kept at an actual loss, and another third of them are just barely paying for their keep. Illinois is the first state in the union in the production of purebred draft horses, and still only 20% of the, so called, draft horses of the state come up to the standard draft horse weight, and only 5% can be classed as number one. This same carelessness and inefficiency exists in meat production, egg production, wool production, breeding, feeding and all other lines of animal husbandry. The high price of meat and all animal products is due largely to this existing inefficiency in animal husbandry. It is a sad state of affairs when milk, meat and eggs, and woolen clothing, come to be classed as luxuries to the common people, and as articles which may be had only by the rich. There is great need then of improvement in our animal husbandry as a business.

In the second place, if you will go back over history you will find that nearly all progressive movements originated in the public schools. I, for one, believe that more can be done toward bringing about this improvement in animal husbandry by teaching the right sort of animal husbandry in high school than in any other way.

The relative amount of time devoted to the different branches of agriculture must depend upon the needs of the community which the school is serving, and no course which fits perfectly the needs of one community will be suitable for all communities. As a general rule, animal husbandry is one branch which should be included in all high school courses of agriculture, and in most cases more time can be devoted to animal husbandry with better results than any other branch of agriculture. In our school animal husbandry is the most popular course we have. All the boys registered in high school since I have been here always take all the animal husbandry that they can get.

Laboratory work of any kind is interesting to pupils of high school age because it involves action. It allows them to use their hands and eyes.

Laboratory work in animal husbandry is especially interesting to boys because it deals with real live animals of economic importance. In this discussion of animal husbandry I have included dairy husbandry and all classes of farm animals.

Text book and class room work has its use and should go along with the laboratory work, but about twice as much time can profitably be spent on laboratory work as on text book work.

I can not outline definitely a course of laboratory work in animal husbandry which will be suitable to all schools; therefore I shall describe some of the work which has given good results in our school, and also speak of some other work which I think might be used to good advantage at other places.

Live-stock judging will probably be the most important of the laboratory work of any school. I shall describe briefly our method of horse judging, and what I shall say about horse judging will apply in a general way to all classes of live-stock. I like to start my course in animal husbandry with horses because I think the horse is the most familiar and most interesting to the beginner. Perhaps some one else would prefer to start with some other class of live-stock. I start by bringing before the class the best type of draft horse that I can secure. Much emphasis should be placed on standards of type, and if the horse being used is not up to standard his weaknesses must be pointed out so that each pupil gets firmly fixed in his mind the right standard of type. Pictures and lantern slides can be used to good advantage in this connection. I go over this horse first myself pointing out his weaknesses, and good qualities, naming and locating the parts of a horse and locating the unsoundnesses common to horses. Then score cards are handed to the pupils, and their use is explained. We do not spend a great deal of time with score card judging, but the score card has an important use. It teaches the beginner the relative importance of the various points. It teaches him to study details, and it teaches him to examine closely.

After the class is familiar with the score card form of judging we take up comparative judging, which is far more important because it is more practical. In this form of judging the pupil should be taught the importance of giving good sound definite reasons for his placings. He should be taught now to place emphasis upon the valuable points rather than upon the minor details. At this time the boy should be taught how to hold a horse, how to lead a horse, and how to move around a horse, when examining him, without being in danger of getting hurt. He should also be taught how to tell the age of a horse by examining the teeth. Pupils should always be required to give the ages of the horses they are judging, and they should also be required to estimate the height and weight.

After the class has had some practice in comparative judging they should be given practice occasionally in oral judging. In this form of judging the pupils are taught to work rapidly. I give them about fifteen minutes to look the ring over and put their placings on cards which are collected. Then each one is called in separately and allowed three minutes in which to give oral reasons for his placings. I think this is the usual method followed in stock judging contests. There is nothing which does a boy more good than participating in a judging contest, for it is here that he does his level best. Every boy should be given a chance at certain time during his school age to show what he can do when he is placed entirely upon his own resources. We have two judging contests at Rollo each year and medals are given to the winners of first, second and third places in these contests.

Another form of laboratory work which I think a great deal of is taking the class to stock shows and fairs. Of course the international stock show at Chicago is much the best show that we have. I find that the general run of farmers have no real standards of type or breed. They do not know one breed from another. With them a horse is a horse, and a hog is

This accounts for the poor grade of live-stock which we find generally throughout the country. At the international the boy sees the best and the only of all breeds of all classes. He gets an impression of type so firmly fixed in his mind that he will never forget it, and when he gets into business for himself he has a standard in mind which he is continually striving to approach in his breeding operations. My boys are talking yet about what they saw at last year's International. I took a class of twelve the last year, and I shall take a class of fifteen this year. I am convinced that two or three days well spent at the international is worth two or three weeks in the class room.

Another very good form of laboratory work is taking the class to see different types of farm buildings of all classes, such as hog houses, poultry houses, dairy barns, horse barns, silos, etc. If the class can see these buildings under construction, and then see them again after they are completed so much the better.

Any trip should be carefully planned by the instructor before the trip is made. There should be a definite purpose in every trip. The purpose of the trip should be carefully explained before starting, and the class should be directed to be on the look out for things of special importance. The class should always be given an opportunity to offer criticisms and suggestions and ask questions after the return from the trip.

Milk testing is a very interesting and very valuable laboratory exercise, especially in dairy sections.

The various forms of home project work can probably be carried on with better results in village and city schools than any other kind of laboratory work in animal husbandry. Three of my boys ran incubators at home last year. One boy built an up to date poultry house all by himself, except for the suggestions and directions which I gave him. The same boy later bought a brooder and went into the poultry business for himself. Several of our boys are raising hogs, and one boy went into the sheep business this fall. This sort of work not only gives the boy employment, but it gives him a business of his own. He must necessarily learn to be industrious, economical and self dependent or else fail in his business, and no boy likes to be a failure.

Where conditions will permit the school can very profitably carry on demonstrations in feeding, breeding and management on the school campus. The school could easily have an incubator and a brooder. The school boys could build a model poultry house, and a flock belonging to the school could be maintained. A steer or hog might be bought by the school, and the boys be allowed to feed and care for it until it was ready for market. This would give actual practice in balancing rations, and it would teach the necessity of keeping accurate account of all operations.

The practical veterinary science which can and should be taught in high school can best be taught by laboratory methods when opportunity for this sort of work comes. Several times I have had occasion to treat a horse for colic. The other day a boy came to me and said that his horse was lame. On examination I found that the horse had a very bad case of scratches. I treated the case once myself, and after that the boy handled it. The horse is well now. The whole class had the opportunity of seeing the horse treated, and I believe any of them would know how to handle a similar case themselves. Three years ago a neighboring farmer showed me a mare which had a very bad case of fistula. He said that two horse doctors had been doctoring her, and that she did not seem to be getting any better. I told him that I would like to try the case, and he gave me permission to do so. I took my animal husbandry class with me two different times when I went to treat the case. The farmer followed my directions and cured the mare. He still owns the animal, and she is a living example of what can be done.

I could go on still further if time permitted, giving you examples of what might be done in laboratory work in animal husbandry, but I think it

should be plain to all that animal husbandry offers a great opportunity in the way of laboratory work.

In conclusion let me say that animal husbandry is not a dead issue. It is just as important now as it ever was. It can and should be taught in high school, and probably nine-tenths of the real practical knowledge which the boy can put into practice when he gets out of school imparted by the teaching of animal husbandry will come through what may be classed as laboratory work. I want to say also that in this time of need it is the duty of every teacher to the nation and to humanity to do every thing within his power to encourage the raising of more and better live stock, and to encourage more scientific and efficient animal husbandry.

ABSTRACT OF ADDRESS AT HIGH SCHOOL CONFERENCE E. Davenport

The call sent out from the munition factories and from other lines of manufacture, and the draft into military service, have stripped the land of labor to a dangerous extent. If production is to be maintained as it should be maintained, a new supply of reliable labor must be found. The farmer cannot compete with the very large wages paid in the factories. For him to attempt to do so would mean his bankruptcy; and at the same time production would be reduced to such an extent that the price of food would undoubtedly rise. Food has always been produced very largely by the labor of the young, and the best source from which labor can now be drawn, indeed the only promising source in sight, is the large body of boys in the city high schools.

The Boys' Working Reserve, organized by the Federal Bureau of Labor, is cooperating with the State Council of Defense in the organization of such an enlisted force. The high schools of the state are getting ready to do what they can to prepare the best of these boys for really useful service on the farm, by conducting during the second semester a course of study in agriculture dealing mainly with farm handicraft. A series of lesson leaflets is being prepared by the faculty of the Agricultural College of the University of Illinois. It is hoped that by instruction of this kind a considerable body of young men will be made available the coming spring to help upon the farm.

However, it is neither the expectation nor the desire that this first attempt should involve large numbers, but rather that the first year should be given to the training of a rather small body of selected young men. If the plan can be made to work in this way the first year, it is believed that hereafter a greater number of high school boys may be prepared to give effective help to the farmer.

The element of gain will not enter into this transaction. The high school boy could make more in most cases by hiring himself to the factory; the farmer could frequently do better for himself by producing less at reduced expense. But the matter has been put up to both the farmer and the boy as a patriotic duty whereby the food supply of the nation and its allies may be maintained. The young man will be urged to take one or more of these boys and pass on to him the knowledge and training he himself has acquired, hopeful of increased production.

BIOLOGY SECTION

The Section was called to order promptly at 9:00 A. M., Friday by the chairman, Mr. W. W. Whitney, and the program as printed was carried out as follows:

Report of Committee on Correlation of Science Work, by J. I. Pricer of Normal, chairman of the committee.

This report will be found under the head of Reports of General Committees of the Conference. The report involved the appointment

two members of each science section to form a general committee ten to study the problem involved for another year and to arrange for a joint meeting of the science sections for the 1918 Conference. The report was adopted by the Biology Section, and Mr. J. L. Pricer and Mr. H. D. Waggoner were appointed to represent the Section.

Following this report, Miss Celestine L. Rice of Lincoln, Neb., chairman of the committee appointed at the 1916 meeting to make a study of the laboratory equipment for biology, of the high schools of the state, made the following report of the work of the committee:

EQUIPMENT OF BIOLOGICAL LABORATORIES

At your 1916 session this section appointed a committee to study the problem "The Minimum Equipment of the Biological Laboratory." Since the nature of the equipment depends largely upon how much money is to be spent it becomes necessary to know several things.

1. How much ought a minimum equipment to cost? 2. Of this sum how much should be allowed for furniture and fixtures—desk, cases, water, gas, electricity, etc.? 3. How much for permanent apparatus such as microscopes, lenses, glassware, tools, etc.? 4. How much for illustrative equipment e.g. lantern and microscope slides, charts, books, preserved material, living material, outdoor laboratory, etc.

The committee undertook to collect some data as to the actual conditions existing in biological laboratories in Illinois. Return postal cards were sent out to 170 high schools in Illinois asking for the information tabulated in the appended table. Sixty-four of these cards were sent to teachers who were registered in this section in 1916. A questionnaire was sent to at least one high school in each county in Illinois. Of the 170 cards sent out 90 were returned in time for this tabulation.

We are told that more than one-half of our high school pupils are enrolled in schools having less than one hundred pupils. In such a school a teacher must teach several subjects and laboratory facilities are frequently poor or entirely wanting. In the high school with an enrollment of more than five hundred pupils these conditions are likely to be remedied. Such a school probably needs little help from this committee. Considering these facts, the replies to the cards were divided into three groups. (1) Those high schools having an enrollment below 100. (2) those high schools having an enrollment between 100 and 500. (3) those high schools having an enrollment above 500.

Twenty-two replies fall into the first group, forty-seven replies fall into the second group, and there are twenty-one schools represented in the third group.

Due to a clerical error in the questionnaire the answers to questions 12b and 12c are not in sufficient numbers to make those results of value. The answers to question 6b have such a wide variation that it is evident that the question did not have a uniform interpretation and the data are consequently of little value. The answers to 16a were so varied that they did not permit a full tabulation.

1. Population of the high school district. 2. Enrollment of high school? 3. Enrollment of biology classes? 4. Number of biology classes? 5. Average size of classes? 6. Is there a biological laboratory? 6a. Is there equipment for each pupil? 6b. What is the per capita cost? 7. Is there running water in the laboratory? 8. Is there gas? 9. Is there electricity? 10. Number of compound microscopes? 11. Number of hand lenses? 12. Is there a projection outfit? 12a. Lantern slides? 12b. Microscope slides? 12c. Opaque projections? 13. Estimated cost of present equipment? 14. Do

you consider the compound microscope necessary? 15. Would two or three compound microscopes and an efficient projection lantern for microscope slides be substituted for a set of compound microscopes satisfactorily where the amount to be spent is limited? 16. Is there a physiological laboratory? 16a. If not what provision is made for physiological work?

High Schools having an enrollment below 100

	1	2	3	4	5	6	6a	6b	7	8	9
1 Yes.....		21	19			18	7	7	11	3	14
2 No.....			1			4	15		10	18	7
3 Unanswered..		1	2					15	1	1	1
4 Total.....		1,137	522	40	270						
5 Average.....		56.85	27.47	2.1	13.5						
6 Largest.....	25,000	95	85	5	20			\$12.00			
7 Smallest.....	500	18	8	1	8			\$.50			
8 No. above avg		11	9	5	9						
9 No. below avg		10	10	15	12						
10 Per ct. taking biol. now....			45+								
11 Per ct. taking biol. sometime			180+								
12 Township high school...		9									

	10	11	12	12a	12b	12c	13	14	15	16	16a
Yes.....	19	19	6	5	10	1	17	20	14	5	8
No.....	2	1	13	13	1	9		1	4	12	7
Unanswered.....	1	2	3	4	14	12	5	1	4	5	7
Total.....	43	231					\$4,505				
Average.....	2.04	11.55					\$ 265				
Largest.....	4	25					\$2,100				
Smallest.....	0	0					\$ 30				
No. above average..	9	12					2				
No. below average..	12	8					15				

High Schools having an enrollment from 100-500

	1	2	3	4	5	6	6a	6b	7	8	9
Yes.....						40	29	18	36	20	37
No.....						3	14		7	21	6
Unanswered....						4	4	29	4	6	4
Total.....		10,404	2,396	105	865						
Average.....		232.65	55.27	2.44	20.11						
Largest.....	28,000	480	180	10	40			\$50			
Smallest.....	1,050	100	8	1	8			\$1.50			
No. above avg..		19	14		18						
No. below avg..		26	29		25						
Township H. S.											
Per ct. taking biol. now.....			23+								
Per ct. of H. S. pupils who take biol.....			92+								

	10	11	12	12a	12b	12c	13	14	15	16	16a
Yes.....			22	20	8	1		34	38	18	19
No.....		1	20	19	2	9		7	2	21	6
Unanswered.....		7	5	8	37	38	14	6	7	8	22
Total.....	297	740					\$22,407				
Average.....	7.07	19					\$675				
Largest.....	25	32					\$5,000				
Smallest.....	1	6					\$40				
No. above average..	11	20					6				
No. below average..	32	20	13				27				

High Schools having an enrollment above 500

	1	2	3	4	5	6	6a	6b	7	8	9
Yes.....						21	20	7	21	19	21
No.....						0	1		0	1	0
Unanswered.....						0	0	14	0	1	0
Total.....		25,874	3,634	127	518						
Average.....		1,293	183	6.35	25.9						
Largest.....		2,600	700		40			\$96			
Smallest.....		500	22		15			\$.50			
No. above average..		9	10	10	10						
No. below average..		11	10	10	10						
Township H. S.....		2									
Percent taking biol. now.....			14+								
Percent who take biology.....			56								

	10	11	12	12a	12b	12c	13	14	15	16	16a
Yes.....	20	20	18	18	6	3	19	18	12	10	8
No.....	0	0	3	2	0	3		3	8	9	2
Unanswered.....	1	1	0	1	15	15	2	0	1	2	11
Total.....	402	674					\$46,425				
Average.....	22+	33.7					\$2,443				
Largest.....	48	80					\$5,000				
Smallest.....	8	12					\$875				
No. above average..	9	8					9				
No. below average..	11	12					10				

CELESTINE RICE,
FRANCES ABBOTT,
F. C. LUCAS,
Committee.

9. Electricity? 10. No. comp. mic.? 11. No. hand lenses? 12. Projection outfit? 12a. Lantern slides? 12b. Mic. slides? 12c. Opaque projections? 13. Estimated cost present equipment? 14. Do you consider comp. mic. necessary? 15. Would 2 or 3 comp. mic. and an efficient proj. lantern for mic. slides be substituted for set of comp. mic. satisfactorily where the amt. to be spent is limited? 16. Is there a physiological lab.? If not, what provision is made for physiological lab. work?

	1	2	3	4	5	6	6a	6b	7	8	9
1. Lane Tech. H. S.	?	2,600	180	7	264	Yes	Yes	\$.50	Yes	Yes	Yes
2. Schurz (Zool.)	?	2,400	260	8	33	"	"	.50	"	"	"
3. Harrison	?	2,300	350	9	39	3	"	0	"	"	"
4. Austin	?	1,700	188	7	246	2	"	\$25.00	"	"	"
5. Marshall	?	1,700	308	11	28	2	"	?	"	"	"
6. Rockford	60,000	1,500	45	3	15	Yes	"	0	"	"	"
7. Oak Park T.	31,000	1,420	700	24	24	"	"	96+	"	"	"
8. Phillips	?	1,400	275	9	30	"	"	?	"	"	"
9. Decatur	46,000	1,105	186	7	26+	"	"	.50	"	"	"
10. Springfield	0	11,000	235	5	40	"	No	0	"	No	"
11. Galesburg	25,000	890	330	11	30	"	"	0	"	Yes	"
12. Rock Island	30,000	800	75	3	25	"	Yes	\$50.00	"	0	"
13. East St. Louis	80,000	797	68	3	28	"	"	0	"	Yes	"
14. Bloomington	30,000	650	47	2	24	"	"	0	"	"	"
15. Charleston Normal	0	611	0	0	0	2	"	0	"	"	"
16. Aurora E. H. S.	29,000	611	2	21	Yes	Yes	"	0	"	"	"
17. Danville	0	651	70	4	17	"	"	0	"	"	"
18. Freeport	20,000	650	22	1	22	"	"	0	"	"	"
19. Peoria Manual Training	0	500	30	2	15	"	"	\$8.00	"	"	"
20. Hyde Park	?	2,500	225	7	32	"	"	?	"	"	"
21. Maywood T.	0	600	40	2	20	"	"	0	"	"	"
Yes.....						21	19	7	21	19	21
No.....							2			1	
Unanswered.....								14		1	

T.—Township High School.

	10	11	12	12a	12b	12c	13	14	15	16
1. Lane Tech. H. S.....	25	25	Yes	Yes	Yes	No	\$3,000	Yes	No	Yes
2. Schurz (Zool.).....	22	37	"	200	600	Yes	3,500	1	Yes	"
3. Harrison.....	36	40	2	600			3,500	No	"	No
4. Austin.....	48	80	2	300			2,000	Yes	No	Yes
5. Marshall.....	24	24	Yes		0	0	1,000	"	"	"
6. Rockford.....	19	50	No	Few			4,000	"	Yes	No
7. Oak Park T.....	20	35	Poor	200			3,000	"	?	Yes
8. Phillips.....	15	30	Yes	Lots			1,500	"	Yes	No
9. Decatur.....	21	23	"	75			3,500	"	"	"
10. Springfield.....	9	18	No	No	Yes	No	3,000	"	"	Yes
11. Galesburg.....	20	34	2	900			1,500	"	"	No
12. Rock Island.....	26	12	Yes	0			2,000	"	"	0
13. East St. Louis.....	24	24	"	Yes	Yes	Yes	1,200	"	No	No
14. Bloomington.....	15	24	"	"	"	1	0	"	Yes	"
15. Charleston Normal.....	100	0	2	2,500			875	"	"	Yes
16. Aurora E. H. S.....	14	30	Yes	Yes	Yes	No	1,350	"	"	No
17. Danville.....	10	25	No	No			3,800	"	No	0
18. Freeport.....	8	24	Yes	Yes			?	"	"	No
19. Peoria Manual Training.....	25	50	"	500	Yes		1,500	"	Yes	Yes
20. Hyde Park.....	30	65	"	"	Yes	Yes	1,200	"	No	"
21. Maywood T.....	24	24	"	"						
Yes.....			18	18				18	12	10
No.....			3	2				3	8	9
Unanswered.....				1					1	1

High Schools having an enrollment below 100.

	1	2	3	4	5	6	6a	6b	7	8	9
1. Onarga T.....	22,000	95	85	5	17	Yes	No	?	Yes	No	No
2. Stockton.....	25,000	90	20	1	20	"	Yes	\$.50	No	"	Yes
3. Staunton.....	6,000	88	36	3	12	"	Yes	0	Yes	Yes	"
4. Atwood T.....	4,100	80	19	2	10	"	No	0	No	No	No
5. Hindsboro.....	1,800	72	60	5	12	"	"	0	"	"	Yes
6. Kirkwood.....	1,000	70	24	2	12	"	Yes	\$5.50	No	"	"
7. Equality.....	0	65	0	0	12	"	No	6.00	Yes	"	"
8. Morrisonville.....	1,300	60	36	2	20	"	"	0	"	"	"
9. Maroa.....	2,000	60	30	2	15	"	Yes	8.00	Yes	"	"
10. Catlin.....	13,000	60	13	1	13	"	No	0	"	"	"
11. McLeansboro.....	0	58	35	2	18	"	No	0	No	"	"
12. Heyworth.....	900	53	40	3	14	No	Subject not taught here.				
13. Biggsville T.....	1,200	50	0		10	Yes	No	0	No	No	No
14. Ashmore.....	1,200	46	10	1	12	"	"	0	Yes	"	Yes
15. Mackinaw T.....	1,000	45	15	2	20	"	Part	0	No	Yes	Part
16. Fisher.....	1,000	44	30	2	20	"	No	\$12.00	"	No	No
17. Weldon T.....	12,000	35	30	3	14	"	"	0	"	"	"
18. Hardin.....	0	30	9	1	9	No	"	0	"	"	"
19. Garrett.....	600	20	12	1	12	No	"	0	"	"	Yes
20. Alvin T.....	1,000	18	8	1	8	Yes	Yes	10.00	Yes	Yes	"
21. Spring Valley T.....	0	0	No	No	Yes	"	No	0	"	No	"
22. Payson.....	500	48	10	1	10	"	"	10.00	"	"	"
Yes.....						18	7		11	3	14
No.....						4	15		10	18	7
Unanswered.....			2	2				15	1	1	1

T.—Township High School.

	10	11	12	12a	12b	12c	13	14	15	16
1. Onarga T.....	1	18	No	No	0	0	?	Yes	?	No
2. Stockton.....	3	12	Yes	100	0	0	\$ 150	"	0	"
3. Staunton.....	4	25	No	No	0	0	0	"	Yes	"
4. Atwood T.....	3	24	Yes	Yes	Yes	Yes	2,100	"	No	Yes
5. Hindsboro.....	2	5	No	No	"	No	125	"	Yes	0
6. Kirkwood.....	1	12	Yes	Few	"	"	150	"	"	No
7. Equality.....	1	12	No	No	0	0	180	"	"	Yes
8. Morrisonville.....	3	15	"	"	Many	No	200	"	"	"
9. Maroa.....	3	2	"	"	Yes	"	200	"	"	No
10. Catlin.....	1	24	"	"	24	"	100	"	No	"
11. McLeansboro.....	1	12	"	"	0	0	200	"	"	"
12. Heyworth.....	4	6	"	"	80	No	80	"	"	"
13. Biggsville T.....	2	Subject not taught here.								
14. Ashmore.....	No	No	No	No	Yes	No	50	"	Yes	0
15. Mackinaw T.....	2	6	"	"	12	"	70	"	"	Yes
16. Fisher.....	3	12	Yes	0	75	0	350	"	"	Biol.L.
17. Weldon T.....	4	18	No	No	0	0	170	"	"	No
18. Hardin.....	No	2	H. S. just established.	Lab. to be added.						
19. Garrett.....	1	4	No	No	0	0	30	Yes	Yes	No
20. Alvin T.....	1	12	Yes	Yes	No	No	250	"	"	Yes
21. Spring Valley T.....	3	0	"	Few	0	0	0	No	"	No
22. Payson.....	1	10	0	0	0	0	100	Yes	"	"
Yes.....		6	6	5	10	1		20	14	5
No.....		13	13	13	1	9		1	4	12
Unanswered.....		3	3	4	14	12	6	1	4	5

T.—Township High School.

RESULT OF THE INVESTIGATION OF THE STATUS OF THE EQUIPMENT OF BIOLOGICAL LABORATORIES IN THE HIGH SCHOOLS OF ILLINOIS.

High Schools with an enrollment from 100 to 500.

1. Pop. H. S. District.
2. Enrol. of H. S.
3. Enrol. of Biol. classes.
4. No. of Biol. classes.
5. Avg. size of classes.
6. Is there a Biol. Lab.?
- 6a. Is there equipment for each pupil?
- 6b. Per capita cost?
7. Running water in Lab.?
8. Gas?
9. Electricity?
10. No. comp. mic.
11. No. hand lenses?
12. Projection outfit?
- 12a. Lantern slides?
- 12b. Mic. slides?
- 12c. Opaque projections?
13. Estimated cost present equipment?
14. Do you consider comp. mic. necessary?
15. Would 2 or 3 comp. mic. and an efficient proj. lantern for mic. slides be substituted for set of comp. mic. satisfactorily where the amt. to be spent is limited?
16. Is there a physiological lab.?
- If not, what provision is made for physiological lab. work?

	1	2	3	4	5	6	6a	6b	7	8	9
1. Waukegan T.....	22,000	480	169	7	24	2	Yes	\$9.00	Yes	Yes	Yes
2. La Grange T.....	17,000	460	35	2	17+	Yes	"	?	"	"	"
3. Streator.....	25,000	436	55	3	18	"	"	?	"	"	"
4. Ottawa T.....	18,000	434	32	2	16	"	"	\$40.00	"	"	"
5. Harvey T.....	19,000	425	180	10	18	2	No	0	"	"	"
6. Paris.....	12,000	425	45	2	23	Yes	Some	0	"	"	"
7. Olney T.....	6,500	254	0	5	27	No	No	?	No	No	"
8. Mattoon.....	1,100	350	80	4	20	Yes	Yes	\$8.00	Yes	Yes	"
9. DeKalb T.....	1,050	315	Only Biology classes are in physiology.				Yes	0	Yes	Yes	Yes
10. Quincy.....	0	417	80	4	20	Yes	Yes	0	Yes	Yes	"
11. Centralia T.....	14,000	328	29	2	16	No	"	0	"	No	"
12. Harrisburg T.....	15,000	335	47	2	23½	Yes	"	\$3.50	"	Yes	"
13. Murphysboro T.....	20,000	250	120	6	20	"	"	\$2.00	"	"	"
14. LaSalle T.....	26,000	391	17	1	17	"	"	\$50.00	"	"	"
15. Chicago Heights T.....	28,000	315	101	5	20	"	No	0	"	No	"
16. Marion T.....	0	300	15	1	15	"	Yes	0	"	Yes	"
17. Dixon.....	6,000	240	45	3	15	"	No	?	No	No	"
18. Shelbyville.....	4,100	217	24	2	12	"	"	?	Yes	Yes	"
19. Wheaton.....	4,000	215	40	2	20	"	Yes	\$39.00	"	"	"
20. Charleston.....	0	212	We do not teach Biology.								

T—Township High School

	1	2	3	4	5	6	6a	6b	7	8	9
21. Carlinville.....	3,600	195	71	3	23+	Yes	Ea. 2	\$5.50	Yes	No	"
22. Greenville.....	5,000	198	21	1	21	"	Yes	\$3.00	"	Yes	"
23. Carmi.....	0	187	47	2	23	"	"	0	"	No	"
24. Paxton.....	3,100	186	120	3	40	"	No	?	"	Yes	"
25. Gibson City.....	2,500	177	200			"	"	?	"	"	"
26. Eldorado T.....	9,000	170	100	4	25	"	Yes	\$1.50	"	No	"
27. Waverly T.....	0	163	24	1	24	"	"	0	"	"	No
28. Albion.....	0	160	50	2	25	"	"	\$1.50	"	No	Yes
29. Watska.....	0	150	16	1	16	"	No	0	"	Yes	"
30. Pickneyville.....	0	137	112	4	28	"	Yes	0	No	No	"
31. Petersburg.....	0	137	48	3	25	"	"	0	Yes	Yes	"
32. Nashville.....	3,000	135	96	4	24	"	No	0	"	No	"
33. Vandalia.....	3,200	130	50	2	25	"	"	0	"	"	"
34. Dwight T.....	0	125	No	No	No	No Biology for last two years.					
35. Elmwood.....	154	120	75	3	25	Yes	Part	\$2.00	No	No	Yes
36. Bement T.....	108	117	40	2	40	No	No	\$2.00	Yes	No	No
37. Assumption T.....	3,000	114	22	2	11	Yes	Yes	\$2.25	No	No	"
38. Nokomis.....	5,000	108	31	2	16	"	"	\$11.00	Yes	"	Yes
39. Newton.....	2,500	102	30	2	15	"	No	\$7.50	No	"	"
40. Lovington T.....	2,500	100	20	1	20	"	Yes	\$5.00	Yes	"	No
41. Virginia.....	200	100	8	1	8	"	Some	0	No	"	"
42. Taylorville T.....	0	0	23	1	23	"	No	0	Yes	Yes	Yes
43. Bradley, Peoria.....	0	250	24	2	12	Yes	Yes	0	Yes	Yes	of any use.
44. Granite City.....	0	400	47	2	24	"	"	?	"	"	Yes
45. Flower.....	2,500,000	115	40	2	20	"	No	0	"	No	"
46. Carlyle.....	1,300	175	20	1	20	"	"	\$10.00	"	"	No
47. Savanna T.....	0										
Yes.....						40	29		36	21	37
No.....						3	14		7	20	6
Unanswered.....						4	4	29	4	6	4

T.—Township High School.

	10	11	12	12a	12b	12c	13	14	15	16
1. Waukegan T.....	Yes	Yes	0	0	0	0	\$1,500	Yes	Yes	Yes
2. La Grange T.....	25	25	No	No	0	0	3,000	0	0	No
3. Streator.....	16	25	"	3 doz			5,000	Yes	Yes	"
4. Ottawa T.....	15	32	Yes	Yes	Yes	Yes	2,000	"	"	"
5. Harvey T.....	6	20	"	"			450	"	"	"
6. Paris.....	2	No	No	No			0	No	"	"
7. Olney T.....	10	?	"	"	No	No	400	Yes	"	"
8. Mattoon.....	12	18	Only Biology classes are in Physiology.							
9. DeKalb T.....	12	12	Yes	Yes			0	No	"	No
10. Quincy.....	9	11	"	"			350	Yes	"	Yes
11. Centralia T.....	6	20	"	"			600	"	"	No
12. Harrisburg T.....	7	24	"	No			500	"	"	0
13. Murphysboro T.....	20	20	"	Yes			2,500	"	"	Yes
14. LaSalle T.....	8	5	No	No	100	No	0	"	"	"
15. Chicago Heights T.....	6	15	"	"			0	"	"	"
16. Marion T.....	5	8	Yes	Some	72	No	\$ 600	0	"	0
17. Dixon.....	4	10	"	50			475	Yes	"	No
18. Shelbyville.....	25	25	"	Yes			1,000	"	?	Yes
19. Wheaton.....	We do not teach Biology.									
20. Charleston.....	4	14	No	No	68	No	152	Yes	Yes	No
21. Carlinville.....	1	0	No	"			350	1 or 2	No	"
22. Greenville.....	4	28	"	"			175	Yes	Yes	"
23. Carmi.....	3	15	Yes	Yes	24	No	0	"	"	Poor
24. Parton.....	7	25	"	?			0	"	"	Yes
25. Gibson City.....	2	30	"	Yes	0	0	400	No	"	0
26. Eldorado T.....	6	0	0	0	0	0	200	Yes	"	Yes
27. Waverly T.....	4	25	No	No	75	0	150	"	"	0
28. Albion.....	1	10	"	Yes			0	"	"	No
29. Watseka.....	3	30	Yes	"			200	"	"	Yes
30. Pinkneyville.....	2	0	"	40			200	"	"	No
31. Petersburg.....										

T—Township High School

	10	11	12	12a	12b	12c	13	14	15	16
32. Nashville.....	3	25	Yes	No			200	Yes	No	Yes
33. Vandalia.....	1	6	No	"			150	"	Yes	Some
34. Dwight T.....	1	12								
35. Elmwood.....	2	25	No	No	Few	No	100	Yes	0	Some
36. Bement T.....	2	30	"	0	0	0	200	"	Yes	No
37. Assumption T.....	6	11	"	No			200	"	"	Yes
38. Nokomis.....	3	18	Yes	100	No	No	365	"	"	"
39. Newton.....	4	18	No	No	No	"	225	"	"	No
40. Lovington T.....	2	24	"	"	Yes		300	No	"	Yes
41. Virginia.....	1	12	None	"			75	Yes	"	No
42. Taylorville T.....	6	22	Yes	0			40	"	"	"
43. Bradley, Peoria.....	We are abandoning our academy work and facts would not be of any use.									
44. Granite City.....	14	12	Yes	50			0	No	Yes	Yes
45. Flower.....	24	24	"	700			?	"	"	No
46. Carlyle.....	4	20	"	Yes			\$ 150	"	"	Yes
47. Savanna T.....	5	10	"	No			200	Yes	"	"
Yes.....			22	20				34	38	18
No.....		1	20	19				7	2	21
Unanswered.....	4	7	5	8			14	6	7	8

T.—Township High School.

Following the report of this committee, the Section voted to continue the committee with Miss Frances Abbott of Springfield as chairman, the other members to be supplied by the chairman of the Section, and the new committee was instructed to prepare a final report including recommendations for the minimum equipment of biology laboratories for schools of different sizes.

Mr. J. C. Isenbarger, of the Senn High School, Chicago, next presented a paper on the subject, "Teaching the Insects". The following is the paper:

The statement needs no amplification that to arrive at any results which are worth while in the teaching of the subject of insects in the high school the teacher must have well defined aims which he expects to follow out. It is true also that in the last two decades high school zoology teaching has undergone a distinct metamorphosis if we are to judge by comparing the latest texts with the older ones. Considering the question as to whether the difference in the texts is accounted for by a change in aims or a change in method, I am inclined to think that the subject matter of our modern courses has been selected with a view to accomplishing purposes which were not thought of in connection with some of the earlier courses.

In addition to the magic transformations, exceptional beauty, examples of superior instinct and intelligence and other interests, we have the relation of insects to man and other animals which gives the subject a solid practical basis which is universal in its appeal.

According to Sanderson, (1912), a conservative estimate of the tax imposed upon the people of the country by insects puts it at more than a billion dollars, and this does not include the havoc wrought by the typhoid fly which probably amounts in loss to the people in money alone to another billion of dollars. Who pays the tax? The farmer who is more directly concerned receives a shorter crop, but he gets higher prices for the produce he has to sell due to the depredations of insects. So, after all, the common people pay the price of ignorance. So the solution of the insect problem concerns each person whether living in the city or on the farm. Information on the subject needs to be generally disseminated in order that we may not have the ignorant person who will breed insect pests to the detriment of a whole community or who will interfere with the problem by killing, either directly or indirectly, the song birds and other insectivorous animals, by harboring uncontrolled cats which destroy on the average, according to Forbush, fifty song birds a year.

The principal purposes to be achieved in the study of insects should be, (1) to awaken in the pupil an abiding interest in insect life, (2) to help the pupil to realize that the problem of insect control is one of interest to all persons whether living in the city or on the farm and that all persons should have some knowledge of insect structure, instinct and metamorphosis in order that the problem can be intelligently dealt with, (3) to teach the pupils biological principles with the insects as examples, (4) to give training in original thought and accurate observation from a study of the living insect.

The selection of types for the work should depend upon the locality and the practical interests of the pupils. The insects chosen for use in a farming district should be, as far as possible, those which affect the farm crops of the region or in some other way touch the life of the boys and girls. The selection of forms for study in the city should be such as to convince the pupil that he is face to face with the insect problem and should have a part in its solution.

In any case the choice should be made so that at least one stage in the

life of the insect can be studied from the living form and it will be better still if the whole life-history can be studied in the laboratory or in the field from the living specimens. It is much more important that we are able to study the living animal than any attempt at following the phylogenetic sequence which substitutes preserved material for the living specimens.

The first form studied in the Senn High School at the beginning of the fall semester is the caterpillar of the *Cecropia* or of the *Polyphemus* moth. As a matter of fact we always have both. The reasons for introducing the work with these forms are as follows: (1) They are large in size and the external features are simple. (2) They are easily found along with their pupae during the early part of September. (3) They are occasionally found as pests on shade trees and shrubbery and hence are of some economic importance to city people.

For individual study, each pupil is supplied with a glass jar containing living caterpillars, pupae and leaves of the food plant. For class study, the caterpillars are kept in cages and fed moistened leaves until they spin their cocoons.

Dried specimens in Riker mounts serve for the study at this time of the external features of the *Cecropia* or *Polyphemus* moth. The cocoons which were spun in the laboratory are put away in the laboratory or in a closed box out of doors where they are left until time for the appearance of the adult moth when they are placed in the cages so that the processes may be watched by the pupils. It should be stated that the cocoons in the laboratory should be sprinkled occasionally with water during the winter.

Other life histories of Lepidoptera which may be worked out in the laboratory are those of the cabbage butterfly, black swallowtail butterfly, mourning cloak butterfly, monarch butterfly and viceroy butterfly. If properly directed, pupils will bring much of this material into the laboratory where all of the pupils can watch the transformations.

While I do not place emphasis upon the systematic phase of the study yet I do find it a good plan to organize the work on insects around eight or nine district orders and have the pupils learn thoroughly the distinguishing characteristics of each order. The insects can be classed later on any of the basis which seems desirable, "Insects injurious to man and animals," "Insects injurious to garden crops," "Beneficial insects" being suggestive titles for such classification.

In order that the class may have early the data necessary for making a sanitary survey of the school district, the Diptera are taken for the second study. It is the intention in this work to show the housefly at its worst so I make no apology for bringing into the laboratory such repulsive material as a seething mass of wriggling maggots. I had little difficulty the year at the time the fly was the topic in stocking my laboratory garbage can with an abundant supply of fine material by making a few select scoops of garbage from a pail which I found without a cover near the school.

The material with which each pupil is supplied at the beginning of the study of the house-fly is a cotton-stoppered glass tube containing several full-grown maggots. But introducing the garbage can this year gave the pupils an opportunity to see without a great stretch of the imagination the effect of carelessness in the disposal of garbage. One peep in our garbage can was sufficient to drive the lesson home. At the close of the day's work the tubes containing the maggots are left lying on the side so that the maggots can reach the cotton into which they will work their way to pupate. In all probability some pupae are found when the class returns the following day. The pupae develop in the cotton and in due time come out of the cotton as full-grown flies. The pupils will surely see some of them emerging from the puparium. In case a pupa has formed between the plug of cotton and the side of the glass tube, the method of an emerging pupa in working its way through solid media by means of the bladder-like structure which extends from the front of the head is observed by the pupils with great interest.

Because of its relation to human welfare the mosquito must be included in any well-ordered course in the study of the insects. Eggs, wrigglers and pupae are usually found together in quiet streams and in ponds during the summer months. We have gotten them from standing water in a green-house in mid-winter. These are studied in small aquaria. But I have also found this material good for demonstration using a live-cell on the stereopticon. It is not unusual to see the imago emerging while the image is being thrown upon the screen. A few small minnows placed in the aquaria and a film of oil placed on the surface of the water in the live-cell demonstrate in a striking manner the methods which may be used in dealing with these pests.

The sanitary map which deals particularly with the relation of the existence of conditions favorable to the breeding of flies and mosquitoes to the prevalence of disease in the community should be started as outside work as soon as the work in class with the flies is finished. We have a set of stereopticon views on the house-fly as a carrier of disease which is used to introduce the work of the sanitary survey.

I have found by experience that when this work is begun it should be pushed through rapidly. The pupils will get more data in a week if crowded than they will get in a month if the work is allowed to drag.

The school district is divided into approximately equal small districts, each containing eight or ten blocks and a small district is assigned to one student or in the case of the girls to two working together. A mimeographed sheet directs each pupil to make a map of his assigned district. On this map are located cases of transmissible disease. Sanitary conditions which are to be located are cesspools, sewage dumps, sewer outlets, marshes, stagnant pools, open garbage pails and manure heaps. Other data shown on the map are public restaurants and stores where flies are allowed access to food and places where there is much spitting on floors or walks. Each pupil is asked to write a summary of the conditions as he found them and try to show some connection between the health of the community and the sanitary conditions, especially with reference to the possibility of transmission of disease by flies and mosquitoes. Along with this summary is given an estimate of what remains to be done to make the community an ideal place in which to live. The boys and girls as citizens of the community are thus brought face to face with the fact that the problems of a city are of vital interest to every one alike and every one should have a part in their solution. Our people need to grow up in an atmosphere which will tend to develop a civic consciousness based upon the idea of individual responsibility.

If one will take the mortuary statistics of a city or county by months for a year and arrange the data to form a graph of deaths from diarrheal diseases in children a curve is formed which rapidly rises with the appearance of flies and gradually falls as the flies disappear. There are approximately three times as many deaths from these diseases in August as there are in January. There may be other reasons but the filth-fly is certainly a prominent contributing cause.

While we are insisting upon clean premises it cannot be emphasized too strongly that eternal vigilance will go a step farther than to destroy the breeding places for flies: it will lead to the destruction of the breeders. I am inclined to think that it is good zoology to include instruction in the construction of the best fly trap and direction as to how such a trap should be used. In this connection I desire to call attention to an article on the subject by Dr. Dodge in the February, 1916, issue of the *Nature Study Review*. Quoting from this article, "Let it generally be known that wherever filth-flies are there is filth and the likelihood of disease, and that no clean people will buy food in filth, fly-besmeared stores or feel at home in fly-filled houses and we will soon begin to live in a decently clean country."

The best specimen of living beetle available at the time that insect is wanted for our work is the locust beetle. It is found upon the blossoms of the golden-rod. With its black and yellow stripes it fits into the pattern of

the shadow and yellow of the blossoms exhibiting protective resemblance to a remarkable degree. The beetle has been referred to as an example of the so-called protective mimicry. It is supposed to mimic a wasp.

Each pupil is given a tube stopped with cotton and containing a sprig of golden-rod and one or more of the beetles for the laboratory study. I have not found it possible to find the borer and pupa of this beetle so have had to depend upon preserved specimens of the June beetle for the study of the grub and pupa of the beetle. It is possible that both of these might be found alive in compost heaps at the time when needed. Meat and fish scraps placed in a quart fruit jar, the jar uncovered and placed on the side among the weeds of a vacant lot will attract scavenger beetles and give an opportunity for studying a most interesting life-history. Lady-bird beetles, adult and larvae, placed in cotton-stoppered tubes with plant lice offer interesting studies in the habits and transformation of an insect which is of considerable economic importance.

The Hemiptera may be illustrated in the laboratory by several of the larger bugs, giant water bug, cicada and others, but I have found it best to study bugs in the field.

The squash bug can usually be found in the gardens in various stages of development during the early fall. For the city student, information concerning the identification, habits and control of plant lice and scale bugs is decidedly practical and should be treated thoroughly. The same may also be said of this work for the pupil living in the country town or on the farm. I am convinced that a good spray outfit should be a part of the equipment of every high school laboratory.

Within three blocks of the school building we find scurfy scale, oyster-shell scale, cottony maple scale, wooly apple aphids and several other aphids of lesser importance. It is quite necessary that the pupils be shown these pests in place on the trees. They can study the effects of the insects upon the trees and they will be able to identify them if any appear upon their own shade trees and shrubbery at home.

The dragon-fly, nymph and imago, is studied as a type of beneficial insect. The nymphs can usually be scooped up with the mud from some pond while the imago can be seen on almost any field trip in the early fall. External structure must be studied, however, from alcoholic material or dried specimens in glass cases.

The study of the grasshopper can be left until late in the season, since good living specimens can be obtained up to the time of heavy frosts. I usually have no trouble in picking from weeks and bushes on cool October mornings all of the specimens needed. Along with these are usually found other members of the Orthoptera, true grasshoppers and walking sticks being notable examples. Theoretically, the study of the grasshopper as typical of insects in general in structure and physiology should be taken up as the first study of the course, yet this is impracticable since many of the forms of insect life have disappeared by the time an extensive study of the grasshopper could be finished.

The honey bee is the standard type-insect representing the Hymenoptera. We have a hive of bees just outside the laboratory window which furnishes abundant material for study. The best season for observing the various activities going on in a bee-hive is May or June. Dr. Hodge's "Nature Study and Life" gives a full description of the possibilities of a bee colony in the school room.

In every case where possible in the study of the insects the specimen should be studied alive. But preserved and dried specimens are necessary. Especially is this true in the case of complete life histories and with material to show damage done by insects. There must be a laboratory collection to supplement the material which can be picked up as needed for study. This calls for a suitable method of preserving and displaying specimens. The Riker mounts serve an excellent purpose, but they allow view from one side of the insect only. A case which serves the purpose better has glass on both sides the two being kept apart at the proper distance by

a frame made of thin strips of wood to which the glass plates are glued and the whole is bound with passe partout. The insect or other material is stuck to one of the glass plates with white shellac in any desired position. The method is described fully in "Nature Study and Life" and more recently in Volume II of the Nature Study Review.

Most of the work of prearing mounts is work for the teacher and not for the pupil since only in exceptional cases will a pupil make a respectable mount of a delicate specimen.

To be able to teach the subject of insects to the best advantage, the teacher must be thoroughly acquainted with his field. He must know where and when his material can be secured. It is a good plan to keep a diary as a guide for the work of future years. Every field trip with the pupils must have a definite purpose. The work should be discussed in class before the trip is made and after it is completed.

I am thoroughly convinced that the collecting which the pupils do should be done according to some definite purpose. It may be for the sake of showing complete life histories or for showing the relations of insects to plants or by any other definitely organized practical plan. I am doubtful of the advisability of starting the pupils out to see what they can catch with no other purpose than that of getting a collection of "Bugs." Pupils should be encouraged to bring home and into the laboratory living material by means of which life-histories can be worked out. I am of the opinion that the pupil who brings in a caterpillar of the tussock moth and feeds it until it makes its cocoon and watches the female emerge and lay her eggs in the pupa case has gained more power and useful information than could be gained by the same individual by sticking pins through dozens of unfortunate specimens of insects taken at random and with no definite purpose in mind.

It has proven an excellent practice in the Senn High School to complete the study of insects with several charts which summarize, under various heads, the data which have been worked over in the class and in the laboratory and field. The pupils are aided in making these charts by bulletins, a supplementary text and books from the library.

"A Summary of the Study of Insects" is intended to fix definitely the main characteristics of the eight or nine orders of insects which have been studied.

"Insects Which Affect Man and Animals" groups together the insects which carry disease or are pests affecting other animal life and lists useful information with regard to these forms.

"Insects Injurious to Plants" shows the economic relations of a select list of insects with regard to plants affected, damage done and remedies.

"Controlling Insect Pests" deals specifically with the methods used in destroying insect pests.

The measure of a course is, to some extent, information stored up, but a better criterion includes power developed. The work with the study of the insects should aid in the development of a citizen alive to his own interests but also alive to those of the community.

The next number on the program was an address by Miss Mabel E. Smallwood, of the Lane Technical High School, Chicago, on the subject, "What Can Biology Contribute to the Civic and Social Welfare of the Community". Miss Smallwood did not use a manuscript and her address can not be reported.

This address was followed by an illustrated lecture by Mr. Ralph R. Root, of the Division of Landscape Gardening of the University of Illinois, on the subject, "The Selection, Planting and Care of Trees and Shrubs on School and Home Grounds".

Afternoon Session

The first paper of the afternoon session was entitled "A Brief Study of the Present Status of Biological Science in Illinois High Schools", by Mr. Fred Hartin of the Rankin Township High School. The following is the paper presented:

A BRIEF STUDY OF THE PRESENT STATUS OF BIOLOGICAL SCIENCE IN ILLINOIS HIGH SCHOOLS

Fred Hartin, Rankin Township High School

The object of this study was to determine so far as possible (1) the amount of botany, zoology, and physiology offered as such in the several accredited public high schools of the state, (2) the amount required of all students, (3) the percentage of students taking these subjects and (4) the various arrangements with regard to the sequence of these subjects. These subjects taught in connection with general science and general biology were not considered in the study. Private and parochial schools were not included in the study on account of the fact that many of these are organized for special purposes.

The information here summarized was gotten from the report of the High School Visitor for the year 1916-17 and from 257 replies to a questionnaire sent to each of the accredited public schools of the state. The following letter accompanied the questionnaire:

Dear Fellow Teacher:

Will you do me a professional favor? The information indicated on the return card is wanted for the preparation of a paper to be presented in the Biology Section of the Illinois High School Conference. Please fill out and return promptly.

Since the time is short I shall write you again if I do not receive the return card in one week.

Assuring you that I shall appreciate a prompt reply and thanking you in advance for it I am,

Yours very truly,
FRED HARTIN.

The following is the form of the questionnaire used:

School.....			
Teacher of Biology.....			
Post Office.....			
1. Amount offered. (None, one-half year, one year).....			
2. Check those required.....			
3. Give number enrolled in each subject this year.....			
4. Give total number enrolled in year or grade in which these subjects are offered.....			
5. In which year offered? (1st, 2nd, 3rd or 4th).....			
6. If half year courses, in which semester are they offered?.....			

Many replies were indefinite, due partly to the fact that the form of the questionnaire was not adapted to give definite information of the courses as they are taught in some schools. For example, I am persuaded that many gave information on physiology which is taught as a part of a course in general science and not as pure physiology. Other indefinite replies were due to misinterpretations of the questionnaire and to incomplete information. These replies were discarded in summarizing the results.

Table I
Amount of Biological Science Offered

Botany	Courses offered	Physiology	Number of Schools
$\frac{1}{2}$ year	Zoology	$\frac{1}{2}$ year	247
1 year	$\frac{1}{2}$ year	$\frac{1}{2}$ year	30
$\frac{1}{2}$ year	1 year	0 year	23
0 year	$\frac{1}{2}$ year	$\frac{1}{2}$ year	19
1 year	1 year	0 year	10
$\frac{1}{2}$ year	0 year	$\frac{1}{2}$ year	9
0 year	0 year	0 year	7
1 year	$\frac{1}{2}$ year	$\frac{1}{2}$ year	6
1 year	0 year	$\frac{1}{2}$ year	4
$\frac{1}{2}$ year	0 year	0 year	4
0 year	$\frac{1}{2}$ year	$\frac{1}{2}$ year	3
1 year	0 year	0 year	3
1 year	1 year	1 year	2
$\frac{1}{2}$ year	$\frac{1}{2}$ year	1 year	2
1 year	$\frac{1}{2}$ year	0 year	2
$\frac{1}{2}$ year	0 year	1 year	1
1 year	Zoology and physiology, one year		1
24 weeks	24 weeks	12 weeks	1
Total			384
Number of schools offering no botany			29
Number of schools offering no zoology			47
Number of schools offering no physiology			49

Table 1 shows the different arrangements of courses with regard to the amount offered and the number of schools following each arrangement. This information is taken from the report of the High School Visitor for the year 1916-17. It is interesting to note that there are eighteen different arrangements and that the half year allotment of time to each subject is by far the most popular. The allotment of one year to botany, one year to zoology, and one year to physiology ranks second in the number of schools following the plan. This arrangement is followed by the twenty or more high schools of Chicago. The next most common arrangement is that of one-half year of botany, one-half year of zoology and no physiology. Twenty-three schools follow this plan. Seven schools offer none of the three courses. Twenty-nine offer no botany, forty-seven offer no zoology, and forty-nine offer no physiology.

Table II
The Amount Required

Courses Required	No. of Schools
None	38
Physiology only	79
All three	49
Botany and zoology	13
Botany and physiology	5
Zoology and physiology	3
Botany only	3
Total	250

Table II shows the course required of all students in 250 schools. In these schools seven different arrangements of required courses are found. Ninety-eight schools require none of the three courses; forty-nine require all three; thirteen require botany and zoology; five require botany and physiology; three require zoology and physiology; three require botany only and seventy-nine require physiology only. Two replies stated that one year of biological science was required but the choice of subjects is left to the student. Thirteen replies stated that general science including physiology was offered and several of these schools require this course.

Table III
Percent of Students Enrolled in Biological Courses

	Botany	Zoology	Physiology
Number enrolled in course	5407	4051	8487
Number enrolled in year or grade in course is offered	9951	9367	13247
Percent enrolled in course	54.3	43.2	64.0

Table III. was made from the replies to questions 5 and 6 of the questionnaire giving the enrollment of classes in biological sciences and the enrollment of the grade or year in which the courses are offered. It was thought these numbers would give the most accurate basis from which to compute the percent of students who actually get from our high schools a knowledge of organic life. The numbers in the table represent the enrollment in about 200 schools.

Table IV.

Sequence of Courses
In Schools Offering all Three Subjects

Order of Courses	No. of Schools
Physiology, zoology, botany	86
Botany, zoology, physiology	39
Physiology, botany, zoology	19
Zoology, botany, physiology	5
Botany, physiology, zoology	4
Zoology, physiology, botany	3
Zoology, physiology and botany parallel	2
Zoology and physiology parallel, botany	1
Zoology and botany parallel, physiology	1
Botany, zoology and physiology parallel	1
Physiology, botany and zoology parallel	1
Physiology and botany parallel, zoology	1
All three courses parallel	1
Physiology, others optional	5
Total	169

In Schools Offering Only Two Courses

ry, botany	10
ology, botany	6
y, zoology	5
y, physiology	2
ology, zoology	2
ology, biology	2
y and zoology parallel	2
y and physiology parallel	1

Total 30

definite order so far as shown by replies 10

Questions 4 and 5 were asked in order to determine the sequence of courses as they are taught in the several schools of the state. Table IV shows the results obtained. Fourteen different arrangements are found among 169 schools offering all three subjects and eight different arrangements among thirty schools offering two subjects. Ten replies seemed to state that no prescribed order was preferred.

It will be noticed that eighty-six schools present the subjects in the order: physiology, zoology, botany. The reason commonly advanced for this arrangement is that physiology is a suitable subject with which to begin the high school sciences because entering students are acquainted with the study and so find themselves to be upon familiar ground. This order, however, begins with the most complex organism and works back toward the more simple organisms. Those who wish to begin with the simple life work toward the more complex prefer the reverse arrangement which has been ranked second in the number of schools using this order. Nineteen schools offer the subjects in the order physiology, botany, zoology. These schools are mainly those which offer one-half year of each subject and begin with physiology in the first semester of the first year, following this with botany in the second semester and zoology in the fall of the second year. Several schools offer the subjects in the order zoology, botany, physiology this arrangement being adopted by schools which begin with zoology in the fall followed by botany in the spring and physiology the following year. Several schools offer parallelism of two, and in one case three, courses occur. Five schools offer physiology first but do not follow any definite order with respect to the other courses. The replies from ten schools seemed to indicate no definite order is followed.

Questions Suggested by the Study

It is not my purpose to suggest remedies for such short-comings as exist in the present organization of high school courses in biology nor to point out any short-comings. The study has, however, suggested the following questions:

- (1) Are eighteen different arrangements as to amount of biological sciences offered demanded by present educational needs?
- (2) Are seven different arrangements as to courses required of all students demanded by present educational needs or should all be required in some biological science work?
- (3) Is the number of pupils taking biological science courses as large as it should be? If not, why not?
- (4) By what criterion shall the sequence of courses be arranged.

The remaining time of the session was taken up with the final reports of the three members of the Committee on Minimum Essentials of the Courses in Zoology, Botany, and Physiology. The following are the reports:

MINIMUM ESSENTIALS OF AN 18-WEEKS' COURSE IN ZOOLOGY

This course was reported in detail at this meeting a year ago, when the results of a series of questions regarding it were given. These were printed in the Proceedings of the Conference under date of Jan. 8, 1917, pages 84-86 and 94. Further consideration of the proposed outline and further questioning of interested teachers have led us to change the plan slightly, in that differentiation is now made between essentials and optionals and that the outline is more full as to details. Thus we have a course of fifteen weeks work in seven animal phyla or classes, and an outline of suggested work in certain others. The remaining three weeks probably would be used in reviews, examinations, or holidays, and in expansion of some exercises or insertion of new ones, as the teacher may desire.

Before stating the revised course we would again call attention to the aim of the committee. We were not instructed to formulate a full course of study nor did we understand that our report would be adopted by and used by every accredited high school in Illinois. Those cities offering a year course will necessarily disregard it except as it might offer a nucleus for a fuller outline. The smaller schools feel the need of a guide course because their equipment is likely to be incomplete or disorganized, because the teacher often teaches other subjects also and is too busy to watch closely each subject and each topic, and because the teacher's tenure of office being short the course often suffers revision. We do not think of "compelling" anyone to do anything, but we offer the zoology outline as a means of standardization to those caring to use it.

Our suggested course follows:

Respectfully submitted,
HAROLD B. SHINN for Zoology.

Suggested Order of Studies

- | September to January. | January to June. |
|--|---------------------------|
| 1. Insects. | 1. Mammals. |
| 2. Spiders. | 2. Birds. |
| 3. Birds (given here because of fall migration). | 3. Reptiles. |
| 4. Protozoans. | 4. Amphibians. |
| 5. Sponges. | 5. Fishes. |
| 6. Coelenterates. | 6. Protozoans. |
| 7. Flat and Thread Worms. | 7. Sponges. |
| 8. Earthworm. | 8. Coelenterates. |
| 9. Crustaceans. | 9. Flat and Thread Worms. |
| 10. Molluscs. | 10. Earthworm. |
| 11. Fishes. | 11. Molluscs. |
| 12. Amphibians. | 12. Crustaceans. |
| 13. Reptiles. | 13. Spiders. |
| 14. Mammals. | 14. Insects. |

Insects. Four Weeks.

1.—Morphology and physiology of one form of local importance, as locust, bee, fly, mosquito, or a true bug.

2.—Adaptations to aquatic, burrowing, terrestrial, aerial, predaceous and other habits, in leg and wing; to respiration in various habitats; to changes of season, of habitat, and of food.

3.—Feeding habits and means of treating insect pests; studies of pest locally important.

4.—Economic forms of products; pollination, seed and fruit formation disease transmission, personal and public sanitation.

Optional Topics.

1.—Modes of development and their adaptation changes during metamorphosis.

2.—Preparation of economic, life history, or type collections, of coloration boxes, of habitat photographs, or of local sanitary maps or charts.

3.—Anatomy, internal; (well taught by means of paper models)

Spiders. Two Days.

General external morphology, natural history and development.

Protozoa. One Week.

Cell physiology and anatomy. These studies, illustrated by living or stained material and original paper models, should be more carefully treated than by others in the course, to be efficient and brief. The story of gametes and of the evolution of sex is hardly proper here except as optional work.

Sponges. One Day.

Anatomy is not of essential importance. Commercial fisheries, to be studied by means of the text or encyclopaedia as informational reading, with demonstration specimens.

Coelenterates. Two Days.

Evolution of the metazoa, often stressed in the study of this phylum, is not advised here, but rather should attention be directed to either a brief study of corals and their geological-geographical importance or else to a reading lesson upon hydroids and jelly fishes. Structure may be well shown by preparation of a paper model, or "cut out," of the hydra, as a type study.

Flat and Thread Worms. Three Days.

The vinegar eel furnishes living material. Other forms may be used as museum material and life histories taught by means of diagrams Tape-worm; Trichina; Hookworm; Ascarus.

Earthworm. One Week.

Individual dissections are strongly advised, with preparations of paper models to reproduce the dissection. The physiology of a relatively simple animal.

Crustacea. Three Days. Optional.

Intensive study of the crayfish is not advised, but a rather a simple theme, as "Segmentation plus Protection." Minute forms of the plankton; lobster and crab fisheries; specialization and degeneration may be stressed for crab and barnacle.

Mollusca. One Week (and)

External morphology only of mussel (or) snail, with their life history, ecology, or economics; button manufacture; pearl and oyster fisheries.

Fishes. One Week.

External morphology as an aquatic adaptation.

Studies in natural history and ecology of local game and food fishes. Ecological survey of a local pond or stream, to show distribution, light or bottom relations, etc., is advised.

Amphibia. One Week.

Life history of a frog; adaptations for double life while adult (circulation and respiration). Or Dissection of a simple vertebrate; its physiology.

Reptiles. Two Days.

Anatomy not important. Natural history of examples of lizards, snakes, and turtles and crocodiles. Or, evolution of birds and mammals before and rough age of Reptiles.

Birds. Three Weeks. Essential Topics.

1. Recognition of common forms, 25 in spring work and 15 in fall work; field observation, construction of nest boxes, shelters, etc.
2. Economics of various wild types, graminivorous, insectivorous, etc.
3. External and internal morphology as adapted to flight; skeleton, musculature, and respiration.

Optional Topics.

1. Migration; times and methods.
2. Plumage; structure, molting, and uses.

3. Formation of the egg and story of its development.
4. Structure of the egg and utility of its form.
5. Poultry (fowls and pigeons). Types and breeds can be used school or visited. Home projects may be accredited and highly advisable.

Mammals. Four Weeks.

1. RODENTS (rat or rabbit) may be used to show relation of teeth diet, edibility, disposition, home, habits, death rate and birth rate.
2. UNGULATES (cow, horse, sheep, or pig) illustrate methods of breeding and genetics, beasts of burden, sources of food, gregariousness and ease of domestication, means of defense, coloration, etc. Families may be discussed as for sponges..
3. CARNIVORA. Terrestrial and aquatic types, with families and examples may be stressed for adaptation, ecology, and natural history. A display show conducted in the laboratory serves to add interest to the course and to exemplify types and breeds and natural history.
4. PRIMATES. By use of texts and reference books types are studied with prehistoric man and the factors contributing to his development and supremacy. Geographic distribution of races.
5. THE MINOR ORDERS may be studied briefly.

The above studies of mammals should be illustrated by as many living and mounted specimens as can be secured; by skeletons, skulls, and teeth by pelts or manufactured products; by lantern slides, magazine article bulletins, and reference books. Regional maps showing the wild form known to be within the school district may be made and records of observations kept, as for birds. A cream separator can be borrowed or visited. A Babcock test secured and butter churned in a cream whip and sample passed through class on soda crackers. Considerable field work can be done as individual projects or class trips; muskrat lodges, beaver meadows, mouse tunnels beneath the snow, tracks, and burrows are legitimate material, well as local dairies and creameries.

THE FACTORS INVOLVED IN THE DETERMINATION OF THE MINIMUM ESSENTIALS OF A COURSE.

J. L. Pricer, Normal University, Normal.

Lincoln Steffens, the well known newspaper correspondent and magazine writer, in an address on the Mexican Situation, about a year ago, introduced his lecture with a very suggestive remark. He said: "I shall give you facts about Mexico. All that I say can be verified. But, I warn you against my point of view." The suggestion contained in this remark makes very clear to me the very heart of the problem of determining the essentials of a course in any subject. If it were possible to determine the correct point of view with reference to the purpose to be attained by the teaching of a course, would be a relatively simple matter to determine what materials and what modes of procedure are necessary to accomplish that purpose. It is entirely on this matter of point of view that we differ. We cannot differ very widely over what constitutes the essentials for the accomplishment of a given definite purpose.

It is in this matter of the point of view, then, that I fear we may more or less hopelessly get out of agreement. One's point of view regarding a question usually consists of a complex of prejudices and opinions which have grown up out of his experiences, and since no two individuals have exactly the same experiences, no two individuals are likely to have exactly the same point of view regarding any question. It follows from this that if each of us is to be guided in our judgment of what constitutes the essentials of a course in botany, for example, by the points of view which

we built up more or less fortuitously, any agreement between us on the essentials of such a course is obviously out of the question, for it is obvious to me of us do hold very different points of view. It would be impossible to assify these with any degree of accuracy because each individual has more or less an individual point of view, but it may be possible to characterize roughly certain groups.

Those who advocate what has come to be called the project method of instruction have in the main, the point of view that the child's native interests and previous experiences should determine what he is taught. I copy the following sentences from a recent text book on general science: "The topics presented have chiefly to do with the school life and home life of the pupil; they are essentially projects to be solved. Being topics with which the pupil is already more or less familiar, they have real significance and meaning to him. Only such matters as have a vital relation to our experiences, can have real significance to us." These sentences state a rather definite point of view, from which, it would be a relatively easy matter to determine the essentials of a course. But, I can not agree to the point of view. I do not believe that it is true that a child can be interested in only those things with which he is already more or less familiar. It is true that the child must have some apperceptive mass for the interpretation of the new thing that we present to him, but this being true, he is quite as likely to be interested in the thing that he never heard of before as he is with any familiar object. The degree of interest all depends on the nature of the thing presented, providing only that the child can understand it and appreciate its significance in his life. The virtue of this project point of view lies in its value in determining the point of beginning a topic of study. We should always begin a topic with some familiar phase of it. To proceed from the known to the unknown, is a well established principle of pedagogy, but it should not be interpreted to mean that we should stay with the known.

The most interested class that I have seen this year was a class in zoology in which the teacher happened to mention the ancient Dinosaurian lizards, and to remark that in a store room down town was a complete skeleton of one of these monsters, having been left there by a stranded menagerie. None of the pupils had ever heard of this group of animals, and the principle under discussion was one our project advocates would call one of those abstract principles of the science for which children have no use. These pupils were able to interpret this new thing when shown one of the bones of the animal, merely because they knew a bone when they saw it. They had the necessary interpretive mass. Their interest in the animal or in the principle which the teacher sought to illustrate was not measured in any degree by what they knew of either before that day.

Probably I have said enough to indicate why I can agree with those who would let the original interests of the class in the subject determine the course.

Again there are those who believe that the direct practical utility of subject matter should determine its relative value. From this point of view, it would be an easy matter to select from the things that we know, about plants, those things which the greatest number could make the greatest use of if they knew them. The trouble with this point of view lies in the fact that the most directly useful things that we know about plants are in the nature of application of principles, and it is possible to teach these applications in a way without teaching the principle. We can teach a pupil how to select seed corn in a way, without teaching him anything about the principles of heredity. We could teach him how to graft an apple tree without his knowing anything about the cambium of the stem. We could teach him how to transplant seedlings in his garden without his knowing anything about root hairs or the process of absorption. But should

we teach him these things in this way, he would be little better off than our efforts. He would know how to do only the things that we taught him and he would have no satisfactory understanding of these. Neither would he be helped in the solution of problems for himself.

Again, there are those who believe that we should select such material as affords the best opportunity for training in the scientific method. There are those who believe that a sympathetic understanding and appreciation of nature should be the principal criterion; there are the old-fashioned systemists who would select those things which would be most serviceable in enabling pupils to trace plants and to know them by name, and numerous other types, besides all manner of crosses between these types.

Now, to me, the only hope that we may have of ever being able to meet this situation and determine the minimum essentials in such a way that they shall be generally accepted, lies in the possibility that by some sort of scientific analysis of the general aim of education we may arrive at a point of view regarding the course in hand that is so sound that it can not be successfully attacked and which can be so clearly stated that it can not be misinterpreted.

I confess that I feel myself quite unable to perform this task, to my own satisfaction, on the present occasion, to say nothing of how poor my efforts may satisfy others. However, I am required to make a final report of minimum essentials of a course in botany, and I must do the best I can to establish my point of view as a preliminary to this report.

I take it that most of us accept "social efficiency" as a proper general aim for all our educational efforts. Then, in teaching botany, we are aiming to make our pupils more efficient social beings. We are not thinking of the individual pupil only, but also of his function in society.

I believe too that most teachers of science will admit that the material prosperity that has come upon us during the past fifty or hundred years, has been due in very large measure to the application of science to industrial and other phases of life. This great change has been brought about by the social efficiency of two very small groups of men, namely: those who have contributed to the advancement of knowledge by their research, and secondly, those who have applied as much of this knowledge as possible to practical affairs. The one class has sought to discover the truth regardless of its practical value, while the other class has sought to apply this discovered truth to find what parts of it they could turn to practical uses.

More or less incidental to the work of these two classes, has been the work of a third class who have sought through the teaching of science to liberate the human mind from its bondage to superstitions and vagaries. Science has contributed to the richness of life, if not to social efficiency, by intellectual freedom and satisfaction that it has given, just as it has contributed to material welfare.

Now, while it may be a small part of our work in the high school to discover the future Pasteurs, and Edisons, and Huxleys, and to train them on their careers, our main function is to make every pupil in our classes more efficient socially and more intelligent in regard to the nature of himself. Our work is that of educating the masses and we ought to realize that while a proper scientific education of the few referred to above has brought about such wonderful changes, a proper scientific education of the masses of men and women would bring about even greater change. It is then, this great change in the conditions of life that would be brought about by a more general diffusion of practical scientific knowledge, of the scientific attitude of mind, and of the spirit of science that we should aim at.

Much of science, though not all of it, is capable of being applied to the amelioration of the conditions of life for the whole people through the agencies of agents. A great manufacturing industry employs a few

men, trained in the science that underlies the industry and the producers to the benefit of every one concerned in it, even to the consumer of the product. A great city organizes an efficient health department through police power, forces the people to accept the benefits of their observance of sanitary measures. But, not all the benefits can be obtained in this way. There are many applications of science which the individual must make for himself if he is to gain the full benefit. Were it not for the fact that we have better trained physicians than ever before, and a few poorly enforced health laws, the small communities in Illinois would be little better off in the line of health conditions than were such communities before the days of Pasteur and the development of sanitary science and preventive medicine. With the outside help that can be forced on such communities, in the absence of knowledge on the part of the masses, health conditions in such communities are deplorable, as witness the recent sanitary survey of White. The only way to save such communities from such conditions is to have the science underlying the situation to the masses of the people. Science is to be applied to the industry of farming or to any other industries that are not capable of being organized into great corporations with central management, the individual worker in the industry must have the science involved and must know how to apply it. He must at least have enough of this science to have faith in what trained experts tell him and he must know the difference between real science and a lot of talk that is masking under the name of science. Again, if the individual is to be freed from superstition; if he is to be able to attack the problems of his life in a scientific way, if he is to know the difference between proved facts and mere opinion, and thus be made more efficient in what he does, both for himself and for society, he must have instruction in these things.

Our business in the high schools, then, to teach this kind of science must have individual application and we must teach it in such a way that the application is sure to be made.

One may be saying that all this is very good but what has it to do with determining the correct point of view toward a course in botany? To answer this to do: It convinces me that if people are to make application of science to practical affairs, they must know the fundamental principles of the science to be applied and they must be trained in the scientific method. Both these things must have been true of the few men who made the applications of science to practical affairs in the past. Can you doubt that Edison is scientific in his methods, that he is familiar with the fundamental principles of electricity? Does anyone believe that Dr. Henshaw, because he is a practical man, is any the less familiar with the fundamental principles of insect life, or in his efforts to control the insect has failed to make use of the scientific method?

If we are to train the masses of men and women to apply science to practical affairs, must we not seek to imitate in a measure the kind of training that these men have had? To me, there is only one method of scientific training. First, we must know the science, and second, we must know the scientific method in applying it. This leads me then to the conclusion, which seems to me to be the only correct one. I must admit that the point of view is not a new one. It is indeed a very old one. It is the point of view in which many educational reformers of the day are trying to get at the mind, the one which these reformers are declaring to be a failure, the mind, it is the one to which they must return before they get what they desire. I admit that most of our efforts to follow out this point of view in the past have come far short of the desired results, but this has not been with the point of view, it has been with our manipu-

lation of details. The results aimed at were the correct ones, but w
been unsuccessful in attaining them.

Ganong, in his Teaching Botanist, states this point of view
lows: "The optimum botanical course is that which combines th
scientific training with the most useful knowledge of plants." In
place he says: "The most important knowledge, I should say, is that
when a man looks upon the world of plants, enables him to know
facts about them which are most fundamental, wide-reaching, and
nating." Useful knowledge, which means the fundamental principles
science, and scientific training, constitute the criterion which would
Ganong in determining the minimum essentials of a course in bot
shall change this but little. In classifying the topics of the course
recommending, I have tried to measure each by the following quest:

- 1 Is it fundamental to the science, wide-reaching, and illumin
- 2 Has it important practical applications with which the pup
likely to be concerned?
- 3 Is it itself an important application?

I have sought to include in the essentials, enough application
to insure that the course will not come to be a course in fundamen
ciples only. The matter of scientific training is to be cared for
method, rather than by the subject matter.

I realize that this point of view makes me what some will call a
patter, but a standpatter is not to be despised if he is right and
take the chance.

FINAL REPORT ON THE MINIMUM ESSENTIALS FOR HALF-YEAR COURSE IN I

By J. L. Pricer, Normal, Ill.

Although the committee on minimum essentials was not ask
officially to report electives also, we have thought it best to do so
arrange both in some definite sequence so as to afford a working
for young teachers who do not feel able to arrange their own course.

The sequence here presented has been thoroughly tested by the
and has been found to offer great teaching advantages and to be well
to a half-year course beginning in February. If these topics are f
veloped, they constitute a sort of continued story, each lesson prepar
the next and in turn throwing some light on previous lessons.

Topics regarded as essentials are preceded by the sign: *, while
which are regarded as electives are preceded by the sign: †.

I. Flowers, Fruits, Seeds, and Seedlings Five Weeks.

- *1. Structure of two or more typical flowers, including the
and their parts. Geranium flowers and some variety o
cissus can usually be secured from greenhouses in Fe
- *2. Pollination and the relation of flowers and insects.
- *3. Fruits such as bean pod, corn kernel, apple, cocklebur. I
parts of the flower in the fruit.
- *4. Seeds, such as bean, corn, castor bean, pumpkin. Identif
of the ovule in the seed. Parts of the embryo.
- *5. Foods stored in corn kernel, including tests for starch, f
proteins, and microscopic study of thin sections. Note th
is stored within the cells, usually in insoluble form.
- *6. Starch digestion, using germinated barley grains and a
cent starch suspension. Test for the disappearance of
with iodine solution and for the appearance of suga
Fehling's solution. Compare with digestion of starch by
- *7. Demonstrate the process of respiration in germinating
by growing them in an enclosed vessel and testing the ai
them for oxygen and carbon dioxide.

- *8. Demonstrate the process of delayed germination in such seeds as the cockle bur, lupine and clover. Value of the property to the species. Its importance in the extermination of weeds.
 - †9. Various methods of seed dispersal. Enormous number of seeds produced by some plants. A good demonstration of this can be had by securing a large pig weed in the fall, threshing out the seeds and estimating the number by weighing and counting one gram.
- II. Roots, Stems and Leaves, Five Weeks.
- *1. Roots and root hairs. Roles of the root system. Contrast with stems.
 - *2. Demonstrate the process of osmosis and apply it to the absorption of materials from the soils by roots. †Chemical elements taken from the soil by roots.
 - ‡3. External features of stems, including methods of branching and elongating the axis, bud arrangement, homologies of thorns and tendrils. Climbing plants and rosette plants.
 - *4. Microscopic study of some woody plant such as *Aristolochis*. †Microscopic study of pine wood and some monocot stem, such as corn.
 - *5. Gross structure of woods used for finishing and furniture. Fitness of different woods for different purposes. Structural features of wood that give decorative effect in finishing lumber. Study decayed oak wood to get these features.
 - †6. Pruning, budding and grafting. Relation of cambium and callos to these processes.
 - †7. Trees and shrubs and their uses in decorative planting.
 - †8. External structure of leaves. Forms of leaves, leaf arrangement, tropic responses in leaves. Light exposure in grasses and rosette plants.
 - *9. Microscopic structure of leaves. The epidermis with its stomates and a cross section.
 - *10. The process of photosynthesis. Demonstrate the need of light, carbon dioxide, and a suitable temperature. Show that oxygen is a waste product of the process. Contrast with respiration. Emphasize the importance of the process to the living world.—The sole source of food.
 - *11. Translocation and storage of food. Advantages gained by biennial and perennial plants by storing food in roots, stems and other organs at other times. Advantages to man of the concentration of foods in storage organs. Contrast the storage process with digestion. Definition of food.
 - *12. Transpiration. Loss of water, the great danger to plant life. Structural features which enable plants to expose enormous surfaces to the dry air. Cutin, cork, and the vascular system. Recall absorptive powers of roots. The important role of water in plant growth. Value of irrigation.
- III. Algae and Fungi, Three Weeks.
- †1. Microscopic study of *Gloeocapsa*, *Oscillatoria*, *Ulothrix*, *Vaucheria* and *Oedogonium*. Primitive sexual reproduction in *Ulothrix*. Sex organs in *Vaucheria* and *Oedogonium*. Economic relations of algae. Food for water animals, and injury to water supplies.
 - *2. Microscopic study of the bacteria found in a hay culture. Identify the three different forms. Relations to the food of the hay and to the protozoan animals of the culture. Powers of digestion and absorption of food. Method and rate of multiplication. Conditions favorable and unfavorable to growth. Parasites and saprophytes. Disintegration of organic matter and return of

fertility elements to the soil. Relations to soil nitrogen. Methods of protecting food against the attacks of bacteria. Animal and plant diseases caused by bacteria.

- *3. Microscopic study of yeast. Demonstrate the production of carbon dioxide and alcohol. The enzymes invertase and zymase. Wild yeasts and cultivated yeasts. The processes of wine, bread, and bread making.
 - †4. The life and work of Pasteur. Benefits to man of the science of bacteriology.
 - *5. Microscopic study of several different kinds of mold. Methods and enormous powers of reproduction. Digestive and absorptive capacity of molds. Inoculate sound fruits and vegetables with different molds and observe the results. Means of preventing mold action on foods. If possible show the presence of mold spores in the air by culture methods.
 - †6. Study a downy and powdery mildew as examples of parasitic fungi. Note their methods of reproduction and distinguish between phycomycetes and ascomycetes. Material for this study should be collected in the fall.
 - *7. Rusts and smuts. Work out the life history of wheat rust and of corn smut. Methods of control.
 - †8. Mushrooms. Study of structure of several different types of fleshy fungi. Note the method of bearing the spores and the great number of them. Identify a few forms of edible mushrooms. Teach the structure of the poisonous *Amanita*.
- IV. Bryophytes and Pteridophytes. One Week.
- †1. Work out the life history of some liverwort, including the alternations of generations. Note the structure of the gametophyte. Lack of cutin, vascular system and roots, and consequent limitation to small size and to living in moist situations.
 - *2. Life history of some common moss including the alternation of generations. Note that the sporophyte is larger than in the case of liverworts and that it is approaching independence.
 - †3. Life history of some common fern including alternation of generations. Note the independent sporophyte, true roots and vascular system. Large size of plants correlated with the structural features.
- V. Reproduction in Gymnosperms and Angiosperms. Two Weeks.
- *1. Study the cones of the Austrian pine and work out all the details of reproduction including the alternation of generations. Note that the female gametophyte is still a many celled structure and forms the endosperm of the seed surrounding the embryo. Make clear the fundamental identity between the reproduction in the seed plants and the higher seedless plants.
 - *2. In a similar way study reproduction in the Angiosperms working out all the details of pollination, development of male and female gametophyte, double fertilization, development of the embryo and endosperm and the maturing of the seed. Study several flowers with reference to their adaptations to cross of self pollination.
- VI. Heredity and Plant Breeding, One Week.
- *1. Pupils should be given some more or less detailed account of Mendel's life and work, of the so-called Mendelian laws, and of the process of transmission of hereditary characters. Illustrative material such as hybrid corn, hybrid fowls, or other available hybrids or pictures of them may serve to illustrate the transmission of unit characters. This material should be given in a well illustrated text, but if it is not in the text used, it may be given by lectures, with illustrative material, or it may be gotten from reference books.

- *2. Along with the above, pupils should be given some notion of the work that is being done in the way of plant improvement through a knowledge of the laws of heredity. The breeding of disease resistant and drouth resistant plants and plants of greater productivity should serve as illustrations and the methods practised in plant breeding should be discussed. Some mention of human heredity and eugenics might be made in the way of application.

VII. Classification of Plants, One Week.

- ‡1. Pupils should be given something of the history of this phase of botany, including the life and work of Linnaeus, the artificial and the natural systems of classification, and the fact that the latter is based on the doctrine of evolution. The characters of the four main divisions should be discussed in the way of review and then the pupils should be given some practise in the tracing of plants by means of a key. This should serve as a review of the structural features of plants as well as to give the pupils some notion of the general field of taxonomy.

OUTLINE FOR AN EIGHTEEN WEEKS' COURSE IN PHYSIOLOGY

Principal G. J. Koons, Township High School, Pontiac

I. INTRODUCTION. One Week.

Essential.

Importance of study. Scope and divisions of subject. Man's place in the animal kingdom. Physiological division of labor. Relation of structure to function. Protoplasm. Cell structure and reproduction.

Optional.

Brief historical account. Demonstration of cell structure and reproduction with microscope or lantern. Kinds of tissues. Demonstration of common tissues.

II. FOODS. Two Weeks.

Essential.

Necessity. Kinds. Sources of food supply. Composition and energy. Selection and preparation. Correct diets. The school lunch. Dangers in water and milk supplies.

Optional.

Composition of different kinds. Food charts. Simple methods of detecting adulterations. Safe methods of storing and preserving. Mistakes in diet. Is alcohol a food?

III. DIGESTION AND ABSORPTION. Two Weeks.

Essential.

Purpose of digestion. Structure and function of organs. The teeth. Oral hygiene. Secretion and action of digestive ferments. Digestion and absorption in the mouth. Importance of careful mastication. Digestion and absorption in the stomach. Digestion and absorption in the intestines. How food reaches the tissues.

Optional.

Demonstration of the viscera of cat, rat, or rabbit. Swallowing. The pupil should be able to trace in a clear and accurate manner the food from the time it enters the mouth until it is built up into the tissues. Causes of indigestion. Common diseases and disorders of the digestive organs. Intestinal parasites. Effect of alcohol on digestion and the digestive organs. How to keep the digestive organs in good working order.

IV. THE BLOOD AND ITS CIRCULATION. Two Weeks.

Essential.

Composition of the blood. Structures and function of

different parts. Structure, adaptation and function of organs of circulation. Course of the blood through the body.

Optional.

The malarial parasite and the blood. Demonstration of beef or sheep's heart. Demonstration of capillary circulation in frog's foot, tadpole's tail or fish's tail. Lymph and lymphatic vessels. Cause of fainting. Influence of alcohol on temperature of the body and the organs of circulation. Athletic heart. Headache remedies. So-called blood purifiers.

V. RESPIRATION. One Week.

Essential.

Purpose. Necessity for oxygen. Structure, adaptation and function of organs of respiration. Breathing. Exchange of gases. Necessity for ventilation. Methods of ventilation. The sleeping room. Special attention should be given to colds and tuberculosis.

Optional.

Respiration in lower animals. Demonstration of "plucks" secured from butcher shop. Lung capacity. Internal respiration. Artificial respiration. Demonstration of methods of artificial respiration. The lung-motor. Dangers from breathing dust. Proper methods of sweeping and dusting. Outdoor sleeping. Drafts. Breathing exercise. Diseases of the organs of respiration. Preventive measures.

VI. THE SKIN AND THE ELIMINATION OF WASTE. One Week.

Essential.

Functions of the skin. Structure. Hair and nails. Action of clothing and hygienic points to be observed. Bathing.

Optional.

Effect of overheated and underheated rooms on the skin. Effects of humidity. Cause of fever. Chills. Chilling lowers body's resisting power. Common skin diseases. Inflammation. Corns. Warts. Bunions. Ingrowing nails. Structure and function of the kidneys. Effects of alcohol on the kidneys.

VII. SUPPORTING TISSUES. One Week.

Essential.

The human skeleton. Structure. Composition and growth of bones. Kinds and structure of muscles. Exercise. Simple exercises for developing and keeping body in good condition.

Optional.

Pupil should be able to name and identify on skeleton the important bones. Articulation. Importance of correct posture in sitting. Skeletal deformities and their causes. Demonstration with microscopic slides of different kinds of muscles. Training and development. Comparative value of different kinds of exercise.

VIII. THE NERVOUS SYSTEM. Three Weeks.

Essential.

Protected position. Parts. Structure and function of different parts. Sympathetic nervous system. Reflex action. Hygiene of nervous system. Rest. Play. Sleep. Principles of habit formation.

Special senses. Structure and function of the organs of the special senses. Proper light for reading. Lighting of homes and school rooms. Care of the eyes.

Optional.

Tobacco, alcohol and drug habits. Pain. Nervous disorders. Mental hygiene.

Demonstration of structure of eye with beef or hog's eye.

Demonstration of structure of ear with model. Methods of testing hearing and sight. Defects of vision and how remedied. Trachoma.

IX. ACCIDENTS. EMERGENCIES AND CARE OF THE SICK. One Week.

Essential.

Importance of a cool head and quick action in accidents and emergencies. Discussion and demonstration of what to do in case of drowning, asphyxiation by gas, freezing, broken limbs, bleeding, poisoning, sprains and burns. Special attention should be given to what to do in case the clothing catches fire.

Optional.

The home medicine cabinet. What it should contain. Simple household remedies and their use. Proper care of the sick. The sick room. Food for the sick.

X. HOME AND PUBLIC SANITATION. Four Weeks.

Essential.

1. Organisms that cause diseases. Bacteria: Classes, characteristics, reproduction, conditions favorable for growth. How they get into the body. Diseases caused by bacteria. Diseases caused by organisms other than bacteria as pyorrhea, malaria, ringworm and hookworm.

2. Hygienic and sanitary measures based on knowledge of parasites causing disease: food preservation, disinfection, vaccine and serum treatments, protection from and elimination of flies, protection from and elimination of mosquitoes.

3. Preventive measures and treatment of common diseases caused by parasites. Special attention should be given here to common communicable diseases. Bulletins on these diseases published by the State Health Department will furnish valuable material.

4. Prevention of disease by the individual. Importance of fresh air, pure food, pure water, healthful exercise and sufficient sleep. Causes of lowered resistance. Use of proper methods of dusting and sweeping. Prompt and proper treatment of cuts and wounds. Cooperation with civic authorities. How to Live, published by Funk and Wagnalls Company, is a good reference book for this subdivision.

Optional.

1. Prevention of disease by civic authorities. Care of the streets. Care of public places. Public water supply. Sewage and drainage. Supervision of sale of milk and other foods. Quarantine regulations. Medical inspection of schools.

The subject of sex hygiene is left to the judgment of the teacher. In some places it has been prohibited by the board of education. In others the results are reported as unsatisfactory. Some arrange to have the subject presented by physicians. A woman physician is secured to talk to the girls and a man to the boys.

Reference. Much helpful material may be found in the following books:

Ritchie's Primer of Sanitation. World Book Co.

Ritchie's Human Physiology. World Book Co.

Hartman's Laboratory Manual for Human Physiology. World Book Co.

Rettger's Elements of Physiology and Sanitation. A. S. Barnes Co.

Fisher and Fisk's How to Live. Funk and Wagnalls Co., N. Y.

Allen's Civics and Health. D. C. Heath & Co., Chicago.

Abridged Red Cross Textbook on First Aid. P. Blakiston's Sons Co., Philadelphia.

Rosenau's Preventive Medicine and Hygiene. D. Appleton & Co.

MacNutt's Manual for Health Officers. John Wiley & Sons, N. Y.

Following the reports of the Committee on Minimum Essentials the Section voted to adopt the reports tentatively to be tried out by the members of the Section. The committee was to be considered discharged as at present organized, and it was suggested that the incoming chairman of the Section should appoint a new committee to continue the study of the problem and to receive criticisms from the members of the Section and to bring in from time to time revisions of the lists of topics.

Professor W. H. Packard, chairman of the nomination committee, reported the following officers for the Section for the ensuing year: J. L. Pricer, chairman of the Section; Miss Nettie M. Cook, secretary, and Mr. H. B. Shinn as the third member of the executive committee. The terms of the three members of the executive committee expire in the order named above. The Section voted unanimously to adopt the report of the nomination committee and the secretary was instructed to cast the ballot for the officers, and the Section adjourned.

CLASSICS SECTION

The Section was called to order by the chairman, Professor H. J. Barton. His introductory remarks emphasized the importance of a clearer understanding of the place the Section occupied in the general scheme of the Conference and that it must arrive at conclusions of real value if it was to do its most for the cause of classical studies.

He then introduced Principal T. J. McCormack, LaSalle, the subject of whose paper was "In the Beginning Was the Word" Principal McCormack spoke in part as follows:

I. Manualism vs. Verbalism.

Man is distinguished from animals mainly by two characteristics, (1) the structure of his hand, whereby the thumb is set opposite to the fingers, and so makes of the hand a tool, and (2) the possession of language, which makes possible abstract conceived thought. The hand is a physical tool, speech is a mental tool. Out of these two distinguishing characteristics have sprung the two fundamental types of activity around which education has centered. The first, the hand with the opposite thumb, has made man a tool-making and a tool-using animal. The second has made him a word-using and a concept-using animal. From the first have come the arts and the crafts, from the second have sprung science, literature, and the machinery of abstract thought, the greatest instrument yet devised by evolving creation. The one activity has given rise to the *physical economy* of time and labor embodied in the inventions of machinery; the other has given rise to the still more refined *mental economy* incorporated in the creations of the human intellect: logic, mathematics, science and literature. The one represents *physical utility*, the other *spiritual utility*. It is a question which type of utility has contributed most to the advancement of the human race. The educational battle of to-day is between verbalism and manualism.

II. Physical Tools and Mental Tools. Abstraction.

The object of education is the understanding and control of nature (men, society, etc.) for the satisfaction of all the needs of life. We understand and control nature through the use of tools,—physical and mental. Tools are the results of abstraction in the philosophical sense. By abstraction we single out parts or aspects of the whole and fix these parts or fix them by labels, by economic devices or fictions, by words or symbols, by lines and strings. The world is too multitudinous, too chaotic for complete simultaneous comprehension. *Economy of mental effort* is necessary, and *the economy finds embodiment in the word*. The results of abstractions are concepts. Thinking takes place through concepts and the visible and the machinery of concepts is language. The inventor, the scientist, is also in images, but these typical images are material visualized analogies only of the concept; and hence the inventor, the scientist and the artist always thinks virtually in words and in abstracts.

But the field where thought is possible by the use of *picturable* type-forms is very limited. It is restricted to the domain of mechanical industry, with its analogies in art and music. But in all other domains, even in parts of physics and chemistry, and certainly in history, sociology, ethics, literature and the formal sciences of logic, and mathematics, all thought is controlled by the *non-picturable* concept which is "cabined, cribbed, and controlled" by the word. *The word appears here in its true educational importance.*

It is the machinery for the thought of by far the most important things of the human race. Industry, which uses the physical tool, bulks largest in the space it occupies; but the domains that use the word and have life and being in the word, transcend infinitely in significance the domain of industrial mechanics, and so have given to the word and the study of the word the supreme place in education.

III. No Conceptual Thought Without Language.

Physically the concept is a bundle or composite of organized epitomized ideas, of classified associations, of fused images, and of more or less definite reaction-habits and reaction-possibilities. The concept has its roots in our psycho-physical structure. But the word cleaves to the concept. *The word is only in part a label, an index, a mnemonic device; on its auditory and visual side the word is rooted in our psycho-physical structure.* The hearing or sight of the word unlocks or releases the bundle of memories, associations, and reactions constituting the concept; *psychically and physically the word is part of the organic structure of the concept. The word may be regarded as the key-board or switch-board of a great system of electrical communications. One touch, one impact, releases a host of messages and sets a multitude of reactions.*

Nearly always, in creative thought, the word appears the dominant member of the complexus. When the word does not come, thought is powerless. When the word does come, thought soars. The probable truth is that psychologically the concept and the word are related as the concave side of a circle is related to the convex side. The two are inseparable. "No reason without image, and no language without reason." *But when it comes to the question of control (and control, for educational purposes, is the essential thing) language assumes imperiously the dominant place. Language is visible, auditable machinery annexed inseparably to concepts, and dragging convulsively with it.* Language is directly accessible to everyone. It appears to have independent life, and to be automatic in its action, as the following considerations will show.

It is a familiar experience of everyone that we think effectively only when we talk or write. Thought flows facily only in connection with language; thought is fixed permanently in its progressive stages only through language. Each word registered in the progress of thought represents a resting

point, a vantage-point for further progress, a *capitalized intellectual credit* converted into the cash of communication, a final score from which further mental advance is possible. But the word so reached or registered is more than a point of economic vantage for thought. *Each word of every language is a depository, a vehicle charged and packed with the precipitates of human thinking for millennia.* Each word is the epitome of the history of untold ages of intellectual and emotional activity. Each word is a luxuriant cluster of the richest and most ramified intellectual associations. Thought cleaves mechanically to words, inheres organically in words. Words are saturated with thought; words drip thought; words reek with thought. Words are the incarnate texture and anatomy of thought. *A word through its thought-incarnations is a living organism that creates spontaneously by fission and reproduction new thoughts, and from its teeming wealth of crowded animate treasure offers automatically to the thinker hosts of stimuli and suggestion for further development.* "I think!" said Lamartine, "I think!" . . . I do not think: my *ideas* think." He meant, his *words* thought; for if ever words thought for a man, it was for Lamartine. We should not say "I think" said Lichtenberg; we should say "It thinks." The process is largely impersonal and automatic, the spontaneous fusion of living images in the brain, conducted, fixed and registered through words. To think correctly is in the end to speak correctly. Unclear thought is exposed or corrected only by translation into language that makes the error or the truth clearer. Correct language is the synonym of expressed truth or error. Well-constructed language and well-constructed science, said Condillac, are equivalents. In the ultimate result, and partly in the genesis, language is identical with thought. Correct automatic talking is correct thinking. *We are phonographs in a sense; the more harmoniously-minded of us, victrolas. The office of education is in part to supply the right records, the right stamps, the right patterns and moulds of thought—and this the heritage embodied in words partly does.* Most of us are mechanical, talking puppets, whose wires are pulled by the sceptered dead of history—puppets emitting puny echoes of the great intellectual orchestras of the ages. Happy is he who has chosen the right intellectual ancestry; happy he who reverberates the right symphonic past! *ENAPXH ἦν ὁ λόγος "In the beginning was the word"; and the reason took flesh in the word; and the word was the light of men.*

IV. Language Incarnate Logic. Latinization.

But not only has thought precipitated and crystallized itself in words and so charged words with automatic and quasi-explosive intellectual power, but the racial thinking of humanity, has, by a species of natural linguistic selection throughout thousands of years, elaborated generalized types of thinking and modes of intellectual operation that have found permanent expression in the syntactical structure of the various languages. And thus language appears not only as the vehicle of capitalized thought in its words, but also as the vehicle of the capitalized logic of the race in its inflectional and syntactical structure. *Language is likewise the incarnate syllogism of the race.* It is not only nomenclature and terminology; it is also inductive and deductive machinery of the automatic type. In view of these considerations, therefore, it is the height of ineptitude, it is rank Boeotian stupidity to say that the study of language is a study of form, and not of content. *One can not study words without studying the richest of all historical contents; and one can not study syntax without studying the stratified logical history of the race both in its flights of truth and its wayward quests of error.*

[Here follows a description of what the Latin language, through its interpretative translations and digests, means for the history of thought, and how the terminology of Latin has saturated all the languages of Europe with concepts that are indispensable for international communication. The study mentioned are philosophy, logic, grammar, theology, and jurisprudence. The Latinization of the Germans also, both in their language and institutions, is

discussed. The Latin form, the author says, the Latin spirit, the Latin vein, can never be eradicated from the world's texture. Tertullian cried out, "Anima naturaliter Christiana", and we may cry in imitation of him, "Anima et mens naturaliter Latinae."]

V. Training the Mind. Formal Discipline.

Our thesis is that the word, in its widest sense as a tangible intelligible symbol enveloping and carrying the abstract concept, is man's dominant intellectual tool, man's distinctive and characteristic mechanism for the comprehension and control of life and nature; that not only does it transcend infinitely the reach and power of the physical tool for the direction of the mind and the reconstruction of nature and society through the attack of the mind, but also it embraces and includes by its very essence the functions of the physical tool and hence is primal and typical in its significance; that, therefore, its study and the pursuit of the branches of learning that center about it are of cardinal and paramount importance for education, and are entitled to first rank in all rational systems of education aiming at economy of time and of physical and mental effort.

Let us now look at some of the practical corollaries of this thesis. Let us examine in the light of it some of the animadversions cast by modernist critics at the fair form of traditionalism. Let us see what truth resides in their soniferous arraignments of the time-worn bugaboos of educational controversy—such bugaboos as "training the mind", "formal and mental discipline", the "latinization of all materials".

"Training the mind", "mental and formal discipline" are simply phrases that have come through over-emphasis into disrepute. It will not be long before the substituted phrases "study of content," or "content studies" will share the same fate. *Form and content are inseparable. The subject-material of education, like life itself, is a complex organic whole. The observation and analysis of that subject-material can proceed only by abstraction, by the singling out of certain more important, certain more significant aspects, parts, or functions of the whole and by studying them in their disconnection. Sometimes the part abstracted is form, sometimes content. Through over-emphasis of the aspect or function abstracted we are unconsciously led to forget the whole and to lift the part into the exclusive focus of attention. Hence arises the main error not only of education but of thinking generally,—absorption in some special phase to the exclusion of the context from which the phase is extracted. The error is pardonable, because all inquiry after truth, all learning, all teaching, all school-work can proceed rapidly and accomplish the multitudinous ends set, only by an intensive economy of time and mental effort. And abstraction, or the over-emphasis of a part to the neglect of the whole, is of the very essence of that economy. If it were not for the economy demanded by the very nature of science itself, demanded by the very conditions of learning and teaching, there would be no need of the school. The unorganized experiences of life itself would be sufficient; education would take place as it did in the beginning, through the actual activities and experiences of life, and would last as long as life; and, lacking the capitalizations involved in the pedagogical economy noted, the educative process would begin anew with each new life, and end with each old life, balked and eternally stalemated. The school is in its very nature a substitute for life, and possesses both the strength and weakness of substitutes. The school from sheer economy deals with organized epitomes and abstracts of life, with words, with symbols, with type-experiments. It covets content, but it finds form omnipresent. It seeks the tissue, but the skeleton thrusts itself firm and palpable into its grasp. The school works, if I may use a more appealing and contemporaneous metaphor, with the paper-money of experience; it deals with intellectual "credits"; the cash, the specie, is too multitudinous to compass.*

VI. Form vs. Content.

The sciences, the bodies of knowledge we study, differ as to the degree of pure form or pure content that they present, from such ultra-saturated subjects as agriculture and sociology to pure logic and mathematics. But in neither extreme type are form and content separate; one absent and the other present. But the sciences where form is dominant have always claimed the first attention of thinkers and furnish the type and ideal of both systems of philosophy and systems of science. Through form and the study of form we economize our grasp and control of existence, whether in the material or in the spiritual realm. Form, which aims at power to comprehend and to mould environments to our ends, finds that the man in possession of principles and with a number of type-forms and type-methods of procedure is far more powerful and useful than the man who is master of isolated specific procedures. To our quest is nearly always bent on form and not on content. For power and permanent satisfaction; content brings only temporary satisfaction. The concept or mental tool is the medium through which for without the concept, without the tool, without the word, experience is a disorganized chaos, the control of experience would be impossible. The human attack on experience would be an aimless infinite multiplication. master content only through the organization and the economy in form. That economy necessarily involves some emptiness, some attenuation; but its emptiness is the source of its power as well as its weakness. The word is the essence of form at its culmination. Form is infinite when properly used; its frailty is pitiable when wrongly used.

The complaint is made that under the influence of the Latinization of education, which aims at training the mind and at formal discipline, even such subjects as mathematics, history, and science have been latinized. Any one who has followed the course of instruction in practical and shop mathematics, the courses in history taught by the methods of the advertising managers of magazines, or the courses in general science, which aim at a comprehension of the material universe in one year, will readily understand why mathematics, history, and science have been latinized, and will realize that the Romanesque architects that have fashioned these formal courses reason these subjects have been latinized is to gain that very economy of presentation, that very saving of mental labor and physical time by the business man, the captain of industry, and the practical theorists who antily and blatantly demand of our schools from the point of view of Algebra represents perhaps the highest mechanical and economic achievement, the highest pinnacle of efficiency that the human mind has ever attained. The person who attacks it on the ground of its lack of efficiency is certainly lacking in comprehension of the real essence of human life and practice. It is precisely through the much derided symbols and science that we not only penetrate to the realities of matter but make ourselves masters of those realities. The reason we cannot master physics, chemistry, botany, and the rest separately and did not master general science was to avoid chaos. Aristotle was a general scientist; we know to what a pass his imitators brought the knowledge of science. But Galileo, Kepler, and Lavoisier brought order into that chaos by the separate sciences of physics, astronomy, and chemistry, and by using and symbolizing to the utmost the materials they thus separately study. Through symbols and form we grasp and control reality.

A like remark might be made with respect to the formal teaching of history. It is considerations of economy that are paramount where teaching is so luxuriant. The "words and symbols" of history after all are but mental equipment which are far more necessary and important than the content-value of any period of history. And so with respect to values generally. Values do not exist *per se* in things and processes (except

values). Values are impressed from without. *Values spring from form. Values are points of view, the offspring of attitudes of intelligence.*

I am not defending the preparatory school in its narrower aspects. I am not defending the college examinations or preparation for college examinations. I am merely endeavoring to explain why certain pedagogic attitudes toward the materials of education have been assumed in the past, and to show that in certain typical cases, as in the teaching of language, mathematics, and history, these attitudes sprang out of the very necessities and the very logic of the situation. The necessities and the logic of that situation are that for the mastery of matter, for grasp of life, and for control of experience, form is more important than content. *Form is of the heart and essence of the universe, and it is through form and the mastery of form that we control the destinies of the race.*

VII, VIII and IX.

[In these concluding sections the author discusses the nature of science and scientific inquiry, and shows that the educative process both in its "mysteries" and in its championing of the transfer of mental qualities from one field to another is simply following the plain analogy of explanations which the most imperious scientific method sanctions. He shows further by appeal to the history of industry that sometimes *the by-products ultimately become the main objects* of the industrial quest, and that both in industry and education there is frequently a substitution or interchange of goals; and especially that *utility has many forms, not the least of which is intellectual, social, spiritual, and ethical utility.* He contends that high efficiency is not obtainable by adolescents, and that the criticisms applied to Latin, algebra, history and other latinized subjects apply equally to shorthand, typewriting, and manual training. Efficiency is never attained except in the right stimulating vocational environment, and unless the pupil is thrown into that environment, a smattering of Latin has the same occasional utilitarian value as a smattering of the manual arts.

[Finally the author contends that *ideas are real vocational machinery*, as powerful and as important as physical tools. The need of vocational education, he says, is so plain that it is almost superfluous to argue it; it is the plainest thing in the universe of human activities. *But the need of the other education,—of education for ideas that will keep us from dying—both physically and spiritually—is not so plain, and hence the necessity of our constant justification of it.* We are crying for an education that will make life comfortable and prosperous, but we are shutting our eyes to the education which will make unnecessary death and disaster impossible. *The prevention of death is as necessary as the furtherance of life; and the wholesale presence of death now among us is due to our lack of cultivation of the proper ideas.]*

Next followed a paper by Professor J. A. Scott, Northwestern University, Evanston, upon the subject, "Ancient and Modern Democracy and Absolutism". Professor Scott spoke as follows:

"One of our leading metropolitan dailies referred to the siege of Gallipoli as 'royally planned but democratically executed, thus identifying ability with royalty, inefficiency with democracy; while another great daily, after a scathing editorial on the present mayor of one of our largest cities, closed by saying that he was the best we could expect under a democracy 'since he is the embodiment of the democratic spirit.' Such sentences would have been counted as treason five years ago, but now they are so common that they escape notice. The same criticism was heard in Athens, and the discontented citizen of that democracy turned from the confusion and disorder at home to envy the seeming power and stability of aristocracy or despotism. So sane a man as Plato frequently praises the superior

government of Sparta, while Xenophon, one of the wisest and most of men, found in Persia's efficient and autocratic rule the atmosphere which he regarded as best suited to his ideals of education, ideals which he presented to his contemporaries under the title "The Education of Cyrus."

A comparison of the stable, efficient rule of Persia with the chaotic slipshod government of Athens is at this moment instructive and enlightening.

Persia, whose power and efficiency so over-awed the men of the time, started as a small nation in a mountainous region and in a little more than two generations extended its rule over Media, Babylonia, Egypt, Macedonia, and in Greece to the Gulf of Corinth. Some of this domain was soon lost, but the fact remains that for more than a century the best of civilization fairly coincided with the borders of the Persian Empire and Persian influences.

The founder of this empire was Cyrus the Great, and shortly after his death the throne passed to Darius, who was hardly inferior in his ability, and statesmanship to Cyrus himself. It is doubtful if any nation has had for seventy years in close succession two rulers their equals in all the essentials of royal greatness.

Cyrus may be regarded as the father of religious liberty, since he not only restored the Jews to their own Jerusalem, but helped them to rebuild their temple. The support of the Hebrews was thus gained, and their interests were attached to the throne of Persia. The Lydians had long been powerful and free people, and they chafed because of their subjection to Persia, unable to win back their freedom, yet they persisted in their struggle; Cyrus did not destroy them but showed the same high statesmanship he had shown in winning the affections of the Jews, for he turned their way the commerce of that region, and soon the poor Lydian soldier found himself the prosperous Lydian merchant, the success of whose business was joined to the power of Persia. Like the princes who followed with golden bridles, Cyrus curbed the once defiant Lydians with his gold, and they intent on the ornament forgot their bondage and made him draw his royal chariot.

The king of Persia was able to work his own way in fields apparently remote from Persian influence, for when the great invasion of Greece took place every Greek oracle proved false to Greece and urged meek submission to the power of the invader. As a rule the words of the oracle were so vague and obscure that they could be understood only after the event, but on occasion they plainly pleaded the cause of Persia.

It was however in domestic affairs that Persian efficiency was clearly shown. They adopted any idea from abroad which seemed worth adopting, so that Herodotus said "The Persians of all mankind are the readiest to adopt foreign customs."

Roads were built through all parts of the empire, a regular mail system with frequent postal stations was established, the rapidity with which mails were sent was supposed to surpass the speed of any living creature. The coinage was so pure that the Daric was the standard gold coin, in Greece, and the Greek mints essentially confined their products to silver change in silver or copper; a striking proof of the care with which Persia prevented the adulteration of her gold coins.

Huge reservoirs were constructed so as to irrigate arid tracts and to prevent inundation in the rainy seasons; harbors were built on the coasts, and a great canal was made connecting the Nile with the Red Sea, thus ships could sail directly from Egypt to the Red Sea. The army was composed, first of ten groups of ten, then ten groups of a hundred, then ten of a thousand, then ten of ten thousand, thus the king knew responsible leaders down to the smallest groups.

Justice was given impartially, in so far as it was in the power of the king to make it impartial, and once a judge who had accepted a bribe

laid by the king's orders, the hide was tanned and used to upholster the judicial chair, as a warning to future judges.

When the king planned the invasion of Greece men were sent ahead to prepare food and supplies for the army, forcing the natives to plant enlarged fields of grain and to breed fowl and cattle for food. Granaries and warehouses were prepared at frequent intervals, rivers were charted and spanned, a double bridge was built over the difficult Hellespont. Mount Athos was a terror to ships and so accordingly a spacious ship-canal was made behind and around the mountain, so that ships might be spared the risk of sailing around this threatening point. A shoal which the Greeks had permitted to ruin many a vessel was discovered by the Persians and a warning shaft was erected thereon. As so much depended on the health of the king water was taken from the clear springs of the Choaspes, boiled and carried in jars for his use. Physicians from the best schools of medicine in Italy, Greece, Egypt, and Babylon attended the army.

No excuses for failures were accepted, and when a great storm tore away the first bridge over the Dardanelles the engineers were at once beheaded, and it is said that when a violent tempest threatened to overwhelm the ship in which the king was sailing after the battle of Salamis, the captain was asked if there was any danger, when he replied that the ship was overloaded, the king turned to his attendants and said, "My Lords" and instantly each of them leaped into the sea while the lightened vessel rode safely out of the storm. The king then summoned the captain into his presence and gave him a crown of gold for saving the life of his king, then ordered that crowned head cut off, because of the loss of so many of the king's companions.

The kings of Persia were regarded by others and by themselves as superior to all law, very gods on earth, so that when the younger Cyrus came to the Euphrates River and found it so shallow that it could be easily forded, the flattering natives convinced him that the river abashed by his divine presence was bowed before him as a token that he was to be king of Persia.

After the great disaster at Salamis and the news thereof spread throughout the Persian Empire, it is said that the people indulged in boundless wailing, not caring so much for the ships, if they were destroyed, nor for their kindred if they had perished, but fearing for Xerxes himself, if aught had happened to him. This is the substance of the whole matter and the ancient historians did not err when they spoke of the Persians, not in the plural, but in the singular, for the nation was lost in the king.

The will of the sovereign had no check, no rebuke, and even when the king ordered anyone to be beaten, the poor culprit counted himself happy because his glorious majesty had condescended to remember him.

The Persian Empire was great only when its king was great, it created no citizens, but only subject, and it soon found that the soil of absolutism is as effective in producing great sovereigns as in producing a great people.

The young king had all his wants anticipated, he never learned to master difficulties. If he hunted lions they were lions in a park, he never had a contest with his fellows in which he was allowed to lose, like students in a business college all his transactions were in make-believe currency.

The prince had no friend who dared to give him unpleasant advice, and he was thus unable to get from others the thing he so lacked in himself.

The efficient government of Persia was able to build roads, canals, bridges, harbors, and to advance the people in wealth and commerce, but it was unable to produce good and intelligent rulers or citizens. In the real purpose of government Persia completely failed, since except Cyrus and Darius she brought forth no man above mediocrity. Civilization owes but a slight debt to the Persian Empire for any advance or discovery in the

arts, science, or literature, and not a subject taught in our college birth there.

This powerful empire failed because it depended upon not upon citizenship; and when royalty failed there was no other power.

Just across the Aegean was the democracy of Athens, where so widely diffused that any citizen was regarded as capable of the highest positions, and even the archons were chosen, with slight variations, at random from the entire body of the Athenians. The five senators were annually selected by the same haphazard method, and a presiding officer was selected by lot for each day in which the senate met. Even in the army during the time of the first Persian invasion the lot rotated daily, and when at Marathon the Greeks faced the Persians, the generals favored and five opposed risking a battle, so that it was the deciding vote of the presiding officer that made possible the Greek victory at Marathon. In each battle of the Persian Wars the Athenians elected a new general. In fact during the greatest years of their power the leaders were only an incident, the real force was the people themselves, and so accordingly the records run. The Athenians decided this or accomplished that. It was in the decline that the power of the leader took the place of that of the people.

It was thus in strict conformity with this spirit that when the lot was taken to see who had deserved most of the victory of Salamis, the Greek received one vote, while Themistocles was without dissent the second place, and that was the true order, since it was the people rather than the leader that achieved the victory.

A government which elected most of its officials by lot and where there was such rapid changes could hardly pursue a secret or continued policy. The openness with which plans were discussed and secrecy, and the rapid change of officials made stability of purpose impossible.

Five hundred men became senators each year, over one half had the honor of presiding, and every citizen knew that he might be upon to sit on a jury, to be a legislator, to act as judge at a contest, or to assume at short notice the duties of almost any public office. This meant a government, inefficient perhaps in carrying great enterprises, but a government most efficient in producing men.

When a Persian general fell or fled the battle was ended, as they rarely or never rallied, while with the Greeks the general was on the army. Xenophon in his *Anabasis* tells how the Greeks attacked themselves to the army and fortunes of Cyrus. Cyrus was slain at whereupon the barbarian contingents gave up the struggle. They were advised to surrender their arms and to throw themselves at the mercy of the king of Persia, a thing they refused to do; then the Persians offered them and the generals were invited into a conference, where they were basely murdered. Now that the generals were slain the Athenians confidently demanded once more that they throw themselves at the mercy of the king, but the Persians undeceived soon found that even among those ten thousand Greeks was as capable to command as they had been ready to obey. The story of the retreat of those few Greeks through frozen and unknown lands, surrounded by countless foes, with no provisions, and with their generals slain is a most telling proof for the efficiency of Greek training.

It has already been said that not a subject taught in our schools is a Persian subject and that Persia exerts little or no influence on our life and thought, but let one open the catalogue of any institution of learning and he finds that nearly every subject from Anatomy, Agriculture, Botany, and Chemistry, down to Philosophy, Physics, Rhetoric,

ogy had a Greek origin and bears a Greek name. In practically every department of human thought the first place belongs to a Greek. Who except Dante and Shakespeare would not be dwarfed in a group containing Teschylus, Sopocles, Socrates, Plato, Aristotle, Demosthenes, Aristophanes, and Meander? Another list about as long and as eminent could be made up of statesmen, architects, and sculptors.

All these men were men of ordinary circumstances and ordinary birth, their greatness was due to a combination of native ability and social stimulus, and this social stimulus did not come from a superior class or a sovereign but from the people themselves. This was the direct result of democracy.

Persia fell because it had no citizens, and autocracy had no power to produce greatness in itself, but Athens fell too, and she like Persia fell rather from within than from without.

Demosthenes warned his hearers, "Do you hear that Philip is dead? How can that help you? Even if he is dead you will raise against yourselves another Philip." Treason and disloyalty in Athens were too strong to give even Demosthenes effective and lasting leadership. Athens had fallen in her own spirit before she fell under the phalanx of Philip. Yet Athens never seemed so full of great men, six of her ten orators daily walked the streets, Aristotle was in his prime, the Stadium had just been remade, the great theatre had lately been erected where at frequent festivals the best productions of comedy were being first performed, and now at last the city's finances were in competent hands. Everywhere strong men were intrusted with power, while the common citizen feeling that he was incompetent withdrew from the weighty affairs of state. In the previous century Pericles had wielded great power in Athens, he was a man of broad patriotic vision, peculiarly fitted for leadership, and so accordingly the private citizen devoted himself to his personal fortunes and left the matters of government to one so unselfish and so able to handle them. Thus it came about that for nearly thirty years the government of Athens was essentially the will of Pericles and he never abused his power, but by a strange trick of fortune when he died there was no competent or experienced statesman to take his place, and his successors were vain, cruel, and incompetent.

The first thing then that ruined the Athenian spirit was the fact that the people themselves neglected to prepare themselves for leadership, but selfishly and indolently resigned to others the burdens of government.

As Athens began to grow in wealth foreigners were drawn thither, these men were usually possessed of ability and enterprise, but they remained foreigners and had no voice in the government, if injured they had no redress in court, unless some Athenian appeared as an advocate. Aliens had to pay an especial tax for living in Athens, an extra tax in case of war, and were forced to join in paying for the amusements and pensions of the genuine Athenians. They knew not only that they could never be citizens, but also that their sons, though born in Athens, would like their sires live and die as aliens. Thus there grew up at Athens a constantly increasing class of those who looked upon the government as organized oppression, men who carried an extra burden in peace and war, yet had no share in the rights or glories of Athens.

These men were aliens in the land of their birth.

Athens extended her power over the islands and the coasts of much of the Aegean, but these lands were not admitted to citizenship. They helped to pay for the splendid buildings on the Acropolis, for the festivals, for the ships and their crews, and fought in the wars, but it was not their government. Athens was thus creating enemies at home and abroad, all enemies because they were deprived of those rights which are the essence of democracy. Had Athens extended her citizenship to those who were permanent residents in Athens or the empire she would have been an easy

victor in the war with Sparta, she would have been spared the awful struggles of the Social War, just at the time when she was threatened by the rising power of Macedon, and Philip would never have found his most faithful allies in Greece itself. To all these alien subjects Athens was the power in whose overthrow lay freedom.

Athens was mighty because at one time she so nearly identified the interest and the hopes of the government with the interests and hopes of the people, her greatness and the greatness of democracy, she fell because she refused these rights to others. It was thus not the extension but the contraction of democracy which brought ruin to the Athenian Empire.

At the conclusion of Professor Scott's paper, a short business session was held. The term of office of Miss Mima A. Maxey, as a member of the executive committee having expired, she was elected to succeed herself for a term of three years.

The executive committee of the Section therefore is constituted as follows: Chairman, Miss Laura B. Woodruff, Oak Park; Secretary, Miss Harriet L. Bouldin, Springfield; Miss Mima A. Maxey, Carlyle.

The next number on the program was a paper by Miss Nina Robinson, Cairo, entitled, "Latin Not a Dead Language but a Living Subject." Miss Robinson spoke as follows:

"After the effects of the Renaissance had permeated the education of life of Europe, there arose in England two types of school, neither of which was under government supervision. They were supported by endowments or were purely proprietary, and few indeed were the schools that offered free training. The effect of this system was evident in the establishment of educational facilities in the American colonies because the institutions of this country, for the most part, were prototypes of the English ancestors. These schools soon proved inadequate to meet the needs of a growing democracy and as the various states took upon themselves particular governmental forms, provision was made for free public schools, which were to be maintained by a system of taxation. The curricula of these early schools included few studies, prominent among which were the Humanities. Attempts were made later to establish a so-called "thoroughly practical" course, but in that, Latin held an important place because it was considered a necessary part of a gentleman's education. And even down to the present time Latin has not ceased to be the bone of pedagogical contentions as to its right to exist as an educational necessity. But despite the criticisms against it, we, as Latin teachers, can point with some degree of pride to the statistics which estimate that at least one half million students yearly, put forth conscientious efforts to know and appreciate Latin.

As in all lines of economic life changes have come, so have they entered educational lines. In fact, we are in a pedagogical faddist period where the central idea of education is an eternal changing to suit the exigencies of the time. The age has produced a money madness which has driven us to adopt teaching processes for training the eye and training the hand for the accumulation of wealth. In consequence of this tendency certain branches of educational activity have been compelled to resort to various devices in order to maintain their prestige. In this contest for supremacy in certain lines of study, the geographical location of the institutions of learning has been of no minor importance. In this state we are between the East which constantly demands the restoration of the

Humanities as the principal part of education, and the West which exerts all its influence to the development of commercial training. It is true that this is an age of specialization, but modern pedagogy insists that to educate a child we must train him vocationally and avocationally. That man is most perfectly trained whose educational activities are as broad as the limit of intellectual possibilities.

A certain well known educator of this state is credited with the delivery of a speech in behalf of the manual arts, which was so forceful and inconclastic that it took years to overcome the result of this trivial poem, which it contained:

Latin—"All are dead who wrote it!
All are dead who spoke it!
All die who learn it!
Praise the Lord, they surely earn it!"

Such a statement made either in the spirit of fun or earnestness is ruinous to the efforts of teachers who give of their ability in order that Latin may hold its importance as a necessary factor in an education. The dignity and beauty of Latin should make it unnecessary to have to fight for its existence as a prominent factor in a High School curriculum. While we consider it a suitable and necessary part of education, we cannot take the attitude that every child must have Latin training. Fortunate indeed are we, that such an idea is not a part of our school plan, for no teacher needs sympathy more than he whose school offers one course, which attempts to mold the minds of the children after one pattern. There are courses, however, in which Latin is a necessity and it is for such work that we are to put forth our best interests to keep it alive.

We have made our first and greatest error when we call Latin a dead language. It is no more dead than a beautiful plant which droops its head in the autumn, wearied with its summer joys, to rest in the winter months so that it may bloom anew in the spring with restored strength and beauty. Nothing is dead that lives and permeates the life of the world: no one is so warped in his opinions as to say that Latin does not live in every sentence of our daily conversation. It is not necessary to dwell on the statistics which grant that fifty per cent of our vocabulary traces its ancestry back to the language of the Caesars. It seems undignified to be compelled to resort to outside means to sustain the Latin interest, but because the necessity exists, certain collateral lines of Latin activity have been tested and found successful. It is unnecessary to say that all teachers have neither time nor opportunity to use all the methods suggested, but the suggestions following have developed from questionnaires sent to different High Schools in Missouri, Indiana and Illinois.

The first consideration shall be for the department as a whole. Clubs have been formed under the supervision of the teacher, which meet at certain stated times to give programs with Latin as the basic theme of the entertainment. Latin songs are sung, poems are read, bits of biography worked into interesting essays and even plays are given. Such subjects as a Roman house, Roman banquets, holidays, famous buildings, methods of dress, the life of a soldier and Roman games give information to both audience and speaker, and give impetus to almost every class of Latin work. Excellent assistance for such work is found in Paxson's Handbook for Latin Clubs, Johnston's Private Life of the Romans and Schlicher's Latin plays.

Another phase of collateral work is developed by pictures. Even a few well chosen pictures for the wall of a Latin workshop offer opportunities for discussion of various aspects of Latin life. Can any Latin teacher tell of anything that is more effective than the picture of Catiline's trial for impressing upon a child the words: "With what mind do you think you ought to endure the fact that when you took your seat in the senate house, that part of the benches was left vacant and bare"?

A great field of work has been opened to those schools enough to possess their own moving picture machines, in making slides furnished by the state universities. Children, as well as adults, are interested in pictures, especially if they are based on events of which they have some specific knowledge.

A fourth plan for collateral work is incorporated under the library reading, a type of work which must be carefully supervised by the teacher. Definite work must be assigned, and written or oral reports on the assignment must be given. It is a good plan to have definite plans for such work well done.

The maps, which can be used to good advantage during the first years' work, are a necessity for successful teaching.

The note-book method has been placed purposely at the end of the list of general aids. Note-books are used in many schools as the receptacle into which all bits of outside Latin information are dumped. The result of this is, that they are worthless, an abomination unto teachers, and a source of never ending annoyance to the teachers.

Considering the Latin course, year by year, as given in the High School, the following suggestions may be found practical. The instructor who deals with beginners should keep certain ideas in mind, first, that he is not expected to make Latin rhetoricians and orators of his School pupils, even after four years' training; second, that his aim should be to teach the child the principles of grammar, indicating always the relation to his native grammar; to develop accurate observation; to increase his vocabulary, and at the same time to stimulate an interest that will carry the child for three more years of Latin training. In this first year, interest may be stimulated by really trivial means; by playing word games similar to "Authors" in which principal parts of verbs form the basis of spelling matches between divisions of classes; by learning Latin words and singing them in class; by discussion of the pictures in the text; by sight reading of "Aesop's Fables" and by exercises in the translation of English words back to their Latin family tree. The later task, more difficult, more thoroughly enjoyable, for it has as its foundation, the old psychological principle of the search of the unknown from the known.

Since the outbreak of the present war, the teachers of Caesar have been unusually fortunate in having newspapers, maps, magazines and books as aids. The vivid descriptions in Gallicia, give us a clearer picture of the Gallic campaign of so many centuries ago. Allen Seeger's "Letters and Diary" has ably linked the past with the present. As he wrote, "Caesar's having said that the spade had won him more than the sword, holds curiously true in the Gallic wars of today, at least as far as our experience has gone." The predominant aim in teaching Caesar should be naturally to fix the rules of grammar firmly in the mind of the pupils, but alas for the teacher who forgets that he is dealing with children, he does not keep constantly in mind that Caesar is a story. The use of P. M. Political Life of Caesar, Froude's Sketch of Caesar, Dodge's History of the Art of War Among the Romans, Judson's Caesar's Army and other books will help keep up outside interest while we patiently drill the pupils in forms of indirect discourse, passive periphrastic constructions, absolutes and such grammatical tangles for sophomore minds. It is a mistake to resort to some of the tricks of playing in Latin, which were suggested for the first year's students. Even field trips can be effectively used during the second year. The restless boy loses his feeling of boredom, his physical energy finds an outlet in the building of a bridge, even the engineering plans come from Latin headquarters. He gains respect for Caesar when he discovers that the author's ability in construction is not wholly linguistic.

The year spent in reading the selections of Cicero, opens a much more serious work. First of all we must acquaint the pupil

man Cicero from every possible point of view, that he may be a forceful, living personality. The study of Roman history will co-ordinate the duplicity of Catiline, the type of his followers, with the political troubles of their age. Every detail will help to present the Catilinian orations as the forensic gems of a silver tongued politician. Johnston in his study of Roman daily life, explains well, many allusions given in Cicero's declamations. In the study of the oration in behalf of Pompey, much attention should be given to maps and descriptions of countries, stories of the Asiatic campaigns and to local Roman history. Archias presents a type of oratory so foreign to the other speeches of Cicero that it affords a splendid opportunity to discuss the oratorical form, the choice of words, the paragraph formation and root derivations. A consideration of these points will add interest, particularly to those pupils who are studying Burke's Speech on Conciliation. The third year of Latin produces subjects for discussion along philosophical lines, concerning Roman conceptions of death, after life, value of education and books. All of these have definite value and furnish enjoyment to children if their efforts and thoughts are well directed. The third year work should be correlated with the department of Public Speaking, so as to bring out the force of the oratorical style and the weight of the legal technicalities. It is well to remember that students can and do feel interest in Catilinian orations, especially since they are excellent illustrations of scholarly legal fights, dear to the heart of a child who has first begun to think along argumentative lines.

Of all the texts of High School Latin that offer possibilities for outside work to stimulate interest, the Aeneid easily takes first place. The story itself is such as to inspire enthusiasm and the versatility of Virgil's pen gives us many subjects for themes and discussions. Gayley's *Classic Myths* and a reliable classical dictionary are necessary adjuncts in the teaching of this glorious epic, because mythology is given a predominant part in the story. No student can really appreciate the Aeneid who does not have a definite idea of Roman Polytheism and of the early Roman history, though it belongs to the age of legends. Maps are invaluable aids in this course and the geographical history of Troy, Tyre, Carthage and Rome brings forth details too interesting to be ignored. Virgil opens a field of outside work in suggesting subjects for physiographical research, when he tells the story of Aeolus and the disaster wrought on the sea by the simultaneous blowing of the four winds. An opportunity is offered for insect study, when he compares the busy Carthaginians with the bees, which ply their labor under the summer sun. Athletics holds a notable place in the story. Various subjects of this sort, appeal to children. The treasury of the Aeneid story is wonderfully enriched by the study of such pictures as the Forge of Vulcan, the Laocoon Groupe, Aurora, and of such bits of art as bring forth the ideas so ably portrayed by Virgil.

Some classes truly delight in the rhythm of the Aeneid and find scanion and the study of the poetic plan, a pleasing diversion from the translation.

In this last year's work, as well as in the study of Caesar and Cicero, sight translation is often a pleasure, as well as an excellent means of finding out just how the pupil's ability to grasp Latin quickly and accurately has been developed. Sight reading from other Latin poets, preferably Ovid, offers decided advantages for the student.

There are still many misguided individuals who insist that Latin is a dead language and has no place in a High School curriculum. Such pedagogues maintain that the study of English with its broad scope will completely satisfy the needs of classical training. They do not seem to realize that this attitude is a hostile criticism of literature itself, as we study it in English. Without Latin the whole structure of our native grammar would be destroyed; if Latin classicism were taken from our English gems, little would be left to recommend them. A survey of Marlow and Nash's *Dido*,

of Shakespeare's *Tempest*, Henry VIII, *Comedy of Errors* and *Macbeth*, of Milton's *Paradise Lost* and *Paradise Regained*, of Spencer's *Faerie Queene* of Tennyson's *Tithonus* and of Ben Johnson's *Masque of Queens* will soon prove to students of literature that Latin, with Virgil as a basis, lives in the hearts and minds of the scholars who have enriched the world with the beauty of their genius. We need only cite the English department to prove that Latin lives in a regenerated form and will never die so long as man speaks the language in which Latin holds so prominent a place.

The exigencies of the present war crisis, have given us occasion to examine our educational system most carefully that we may in the future include in our curriculum only such subjects as will develop the best type of manhood. Dean Andrew West of Princeton maintains that all the existing records of the schools of our land, and of Europe, agree in showing that the classically trained students surpass the non-classical students, not only in history and literature, but in the general range of scientific and technical studies. The type of education not purely commercial, seems to produce men who best serve in the founding of a pure democracy which demands the power of concentrated, definite, related knowledge. The classics as a means of disciplinary training for such demands and persons who would relegate this ever living subject to the realms of the dead, would crush the spirit which inspires science, history, literature and philosophy.

We, as Latin teachers, must be alert that our subject be kept pulsating with life. We cannot insist too much upon the fact that Latin must always hold its own as a factor in the education of secondary school students. Certainly no one with a sense of literary values, can censure the pedagogue who, by any and all means, puts forth efforts to teach children an appreciation of the language, whose very accents breathe forth the atmosphere of gods and heroes dear to the ancient Latin heart.

This was followed by a paper by the chairman who took as his subject "What the Classics Can Contribute Toward the Civic and Social Welfare of Our Country." The paper set forth very briefly six Roman ideals and asserted that they were of large practical value at the present time. The chairman spoke as follows:

We are living in a new world and it has been made new since that fateful 4th day of August, 1914, when it was definitely known that Marathon and Thermopylae and Leyden and Bunker Hill and Gettysburg had not settled the question of whether *the few* had a right to rule *the many*, and when it was clear that the age long contest must be fought out again, in spite of our boasted civilization.

Yes a new world for the world can never be as it was. Class distinctions are in the nature of things but social classes can never be as far apart as before; the doctrine of Jesus of the brotherhood of all men has even now new hold on the world. It can never be forgotten how the common man and those his social superiors have fought side by side, have bled side by side and have died side by side that this world might have a new birth of freedom. And a remarkable episode has been the participation of women in the war. They have not deemed their lives dear unto themselves so that they might do their very best to save this world for freedom. And so we can readily see new social conditions and new economic relations as the outcome of all this. Yes, it is a new world.

Our President in terse phrase has said that the world must be made safe for democracy. And it will be. We shall have our set backs as now but we shall arrive for "freedom's battle once begun, bequeathed from bleeding sire to son, though baffled oft, is ever won."

THE WORLD MUST BE MADE SAFE FOR DEMOCRACY and side by side we must place that other word *DEMOCRACY MUST BE MADE SAFE FOR THE WORLD.*

DEMOCRACY MUST BE SAFE FOR THE WORLD—this implies adjustments. Can we make them—we Americans? Can we be self contained, wise and democratic? Can this melting pot of the world be equal to the task? Gladstone said that he believed that from the union of the various races, there would come in the United States the finest type of man the world had yet seen. Is his prophecy to be true?

This is the reason that this query has been made of us. What can we do to contribute to this new world order? Have we teachers of the classics some vital part to play? Let me attempt to answer the question.

All studies have *content* and *process*. Each element has value. In some the content is knowledge without dynamic value; in others, the knowledge is charged with power. MY POSITION IS THAT THE TEACHER OF LATIN HANDLES A SUBJECT THAT HAS A CONTENT WHICH HAS DYNAMIC VALUE *for our social and civic welfare.*

Let me put it another way,—THERE ARE CERTAIN ROMAN IDEALS THAT ARE NEEDED RIGHT HERE IN THE UNITED STATES. The first that I mention is *steadiness*. The ROMAN of all ancient peoples stood forth as the *steady man*. Hear Vergil as he describes his typical Roman,—

“As some strong oak, the mountain’s pride,
Fierce Alpine blasts on either side
Are striving to o’erthrow:
It creaks and strains beneath the shock,
And from the weather-beaten stock
Thick leaves the ground bestrow:
Yet firm it stands; high as its crown
Towers up to heaven, so deep goes down
Its roots to worlds below.”

This was not the *ideal* Roman, this was the *typical Roman*. Witness on the defensive, Pyrrhus, Hannibal, The Trebia, Transumenus, Cannae, Metaurus; on the offensive, Caesar, Agrippa, and the hundreds less known. To be sure in this uniform and long continued policy, they had the advantage of the trained body of men they called the senate but it is quite clear that the *common man* also had the virtue of *constantia*.

And right at this time we need this quality. Our press teems with this and that rumor, we have German spies everywhere we are told, this ally and that is weakening, France is bled white, England is soon to come to Hell’s door and ask to see the reigning monarch (not the old one, he has abdicated), Italy is to be overrun, the money power is back of all this and so on to the end of the chapter. As an outside good old Roman CONSTANTIA from which it was evident in Horace’s vision that, if the world fell in ruin about the head of the man with this quality, it would find him fighting with courage to the end.

But when this strife is over and it has been shown that a man may live free in a free world then we shall need constantia perhaps more than now. Capitalists have their just rights, those who labor with their hands have their just rights, it will be found that socialists have some claim to a hearing, the educational system will demand some readjustments because of national and state aid to agricultural, mechanical and domestic science training. We must keep our heads level and not indulge in the luxury of a mental paralysis and go on an intellectual jamboree. By the provisions of the Smith-Hughes bill \$12,000,000 will perhaps be raised for this side of education; but all teachers and all citizens are not vitally interested that the pendulum does not swing so far as to forget that the most important thing in education is spirit. ROMAN CONSTANTIA IS WANTED IN LARGE QUANTITIES. Here then as Latin teachers we can bring home to our students and to society through them the *steady character* of the Romans—
LEADERS AND PEOPLE.

A second contribution that we can make is Roman *RESPECT FOR LAW*. Respect for Law because it is Law. We have no great respect for what is enacted into law unless it meets with our approval.

Our autos go rushing along the street at 30 miles an hour when the speed limit is 15; autocyclus do not pretend to obey the law as far as I ever discovered. Our attitude toward criminals is just the opposite of the Roman. Now we hear of environment and that some unhung murderer is really not to blame; it is society that must bear the charge. Many states have abolished the death penalty and it is possible that the murderer may be one day pardoned to commit other crimes. So stealing and forgery and all the rest are due to an imperfect condition of society or to an imperfect development of the individual. O such bunk, just plain bunk but we do not hear it? To be sure we do. Now what I wish to point out is that all this is *contrary to Roman ideals*. Law was law and was to be obeyed because it was law. Of course we may not argue for all the severity of the Roman code but we can as classical teachers contribute much to a sane and well ordered society, if we seek to instill into our pupils the Roman point of view.

And the Roman quality of *PATRIOTISM* is another contribution that we can make to the present situation. It is clear that our body politic needs instruction in what patriotism really is. The Roman proudly said "Civ Romanus sum" and then he backed up the state when it was in peril. There was no talk, no drivell and drool about Graeco-Roman, Egyptian-Roman, Spanish Roman, Gallic-Roman. Paul said, I am a Jew, born in Tarsus, city of Cilicia, but he said I am a Roman. How surprised he would be, were he now, to hear about a German-American.

With our rapid development since the civil war, some things have gone wrong. A surprising spirit of mammon, a strange disregard of spiritual values, a strong belief that we were in this western world safe and sound and that we were not bound by any ties to liberty and democracy in other lands.

And side by side has been the notion that we need never fight for our government, no duties in this direction and with it a child like confidence in the ostrich method and no thought that there were dangers, and so we have seen what we have seen—a giant without weapons—a nation without the means to defend herself.

All this is the antithesis of the Roman's notion of patriotism. He realized that what he possessed he had by virtue of the fact that he was Roman and he was ready to fight to defend it; and in our turn, armed with steadfast devotion for our country, and tolerating no one who tries to lessen our belief in its mission in the great democracies of the world, we must do our part in educating our students to be Americans and to make it evident that a divided allegiance is impossible. No Xerxes, Ariovistus or Attila come to life may hope for any sympathy in America when once the Roman idea of duty to his native or adopted land has taken possession of society.

THIS IS A PART OF OUR CONTRIBUTION TO THE WORLD—TO OUR DAY—TO OUR GENERATION—TO PASS ON ROMAN PATRIOTISM.

THESE THREE IDEALS WORTH OUR WHILE which have been mentioned have vital application to these times of world convulsion when every man and woman in the United States should be steady, determined, patriotic law abiding in the Roman sense and full Roman tenacity—a tenacity that will see this last great attack on Freedom driven back to the Hell from which it came, "driven back" I say and the entrance sealed. There are however three other characteristics of Roman character that we should bring as a part of our contribution to our social condition.

First is the Roman love of family—his pride in it—his belief that he should marry and raise up a family not only for the glory of himself but also for the strength of the state—his belief that this was a duty—his care for his children—the position of honor that he gave his wife—the family council when the young man was for the last time instructed in the duties

of citizenship, given his toga that made him a citizen and was enrolled among those who had positive notions as to what was implied in being a Roman citizen. All this is superb—all this we need and it contrasts strongly with what is or rather with what is not in the mind of the young man of today when he becomes a citizen of this republic.

Again the Roman notion of the function of the state has in it food for thought. A few winters ago, there were said to be 100,000 or more men in Chicago out of work. They were assisted by various charity agencies but not by the city as such. It has been only a little time since the thought of furnishing free bathing facilities for citizens of Chicago was looked upon as no part of the duty of the city. Some parks there are to be sure and citizens of our great city can go and see the lions and monkeys if they are so inclined but no great progress has been made in the notion that it is one of the functions of government to provide for some of those activities that we now consider to belong to private initiative. And yet as we become more and more urban people, it seems to me that we do well to consider and adopt, in part at least, the socialistic notion of the Roman.

And yet again, we need the Roman's love of art. Art has been with us more or less—usually more—restricted to the rich. But the Romans' art went into the humblest homes and strove to beautify the simple clay lamp as well as the costly candelabra. It has been in the temples and palaces but also in the homes of the poor. The people had the artistic sense.

And now we need this. How it will sweeten the life when it comes. We smile at the "woman who said that she would never be content until she had a torso of her daughter's left arm by one of the old masters and that another one who said she should have loved to have heard the sirens singing the mayonnaise.

But these pass, they are the incommodes of all things good. It still remains that we can do much and should do much to bring our students and our communities the Roman ideal of art.

These then were some of the Roman ideals—ideals worked out and appearing in their civilization. And I repeat they are ideals that, appearing in the western world, in the degree that they appeared in the Roman would contribute much to that society of which we form a part and to that nation in which we are proud to be numbered.

When the American troops, on the fourth of last July marched through the streets of Paris, on the pavement of the line of march knelt a company of French orphan children— orphaned by "the Potsdam vultures," yes there with bowed heads they knelt as the ideals of Lafayette and Rochambeau marched by in form of the American soldier. And near by, a French woman, in mourning, with tear dimmed eyes, stretched out her hands to the flag and said "Yes the Germans are wrong; the mightiest things in this world are ideals."

Even so, amen and amen."

At the conclusion of the paper, the Section adjourned to 2 P. M.

The Section was called to order at 2 P. M. by the presiding officer, Professor H. V. Canter. He presented a paper in which were outlined courses of readings in the classical authors, for high school teachers of Latin. Professor Canter spoke as follows:

The department of Classics at this university counts it a privilege and an obligation to be helpful in every way possible to high school teachers, with whom its relation is looked upon as a close and vital one. In the High School Conference Proceedings for 1914 there appeared an unpretentious suggestion of materials bearing on "High School Equipment and Publications

Helpful to Teachers of Latin and Ancient History". The reception given this article by Illinois teachers was gratifying and quite out of proportion to its merits. But a real surprise is found in the applications coming from other states, extending from New Hampshire to Oregon, for copies and for requests for the privilege of publication. This experience has prompted the present attempt to suggest to, and to urge upon, Illinois high school teachers of Latin a course of reading in that subject, which, if followed in any part, cannot fail to make for more effective teaching, with corresponding pleasure in the work on the part of both teachers and pupils.

There is no need to remind you that the great virtues of any teacher are sound, forceful character, contagious personality, and pedagogic skill, together with wide and accurate knowledge of his subject; that of these virtues knowledge, in a very real sense, is the greatest, since without it none of the others can fully function in teaching. Moreover, in all these respects it is a safe assumption that Latin teachers compare favorably with teachers of other subjects—a statement which brings me to the essence of my plea. It is not sufficient for the Latin teacher to compare favorably in the prime requisite of knowledge of subject matter, for he must teach several other subjects in teaching his own. "What do ye extra?" is the searching inquiry pressed home to every such teacher. For, of the high school and the college teacher of Latin alike, it is true that, from the very nature of his subject its broad and varied character, with matter more remote than most branches of study, and direct, personal interest in it correspondingly harder to establish, greater demands are made upon him who would teach successfully than upon the instructor of almost any other subject in the curriculum. Hence every Latin teacher is in peril of attempting to conduct a business too large for his capital, of performing an important work, involving the use of even enlarged resources, for which he is not adequately equipped.

It is generally agreed that the hope of Latin rests very largely in the work of the well trained, thoroughly informed and skillful teacher of the secondary school. You will, no doubt, agree with me also in believing that enthusiasm for any subject comes with a large knowledge of that subject, and that such knowledge comes to the Latin teacher, as in no other way, by the direct, careful reading of many authors. For only by this process does the teacher really know Latin literature as it exemplifies Roman life, art and civilization in their manifold aspects; only in this way is he able to bring the truth, beauty and vitality of the life of the past into the life of the present. Perhaps there has never been a time when more demands of a legitimate character were made upon a teacher's time than are made today. But these must not be allowed to prevent continued reading on the teacher's part. Most of us find time to do the thing which we really wish to do, particularly if we are methodical and attack our problems consistently. Yet, as we know, many teachers of Latin attempt no serious plan of reading. At the outset of their work they are eager to add to the knowledge of the subject they are teaching. They hope to gain wide familiarity with the great authors whose works they have barely gained an introduction in the college course. Presently, however, this ambition is renounced in view of professional and social demands, with the result that they not only do not increase their knowledge of Latin, but in many cases lose ground. No teacher need deceive himself into believing that he is growing, if his reading is confined to that done in the classroom. To the end that Illinois teachers may be induced to widen the narrow classroom range, certain readings are here suggested. These are presented with a view to the organization of little reading circles made up of the teachers in the same or neighboring schools, which meet regularly and at stated periods. A few pages read each week will produce gratifying results. There is a great deal of inspiration and help to be gained by meeting and working with one's fellow craftsmen. One becomes a good teacher of Latin by working with other teachers in that field, just as one becomes musical, not by enjoying or studying music alone, but by associating with people who are musically minded. No attempt has been made to bring

together an exhaustive list of materials suitable for reading by teachers, and only those are given for which texts are readily obtainable. Selection is confined to works which are not too difficult, and to authors (at least the parts of their works) not ordinarily read in the high school. Hence the omission of Caesar, Nepos, Sallust, Cicero's orations, and Vergil's Aeneid.

I.

In the first list are found texts which comprise within the limits of a single volume representative selections from a number of authors. These texts will be found admirably adapted to the purpose for which they are here given. They are convenient and inexpensive, while the new authors and selections read will open up to the wide awake teacher many topics for further study in and illustration of literature already familiar:

- 4 *Selection of Latin Verse*: Ennius, Lucretius, Catullus, Vergil, Horace, Tibullus, Propertius, Ovid, Phaedrus, Seneca, Lucan, Statius, Martial, Juvenal, Ausonius, Boethius, Edited with notes by Instructors in Latin, Williams College, Yale Univ. Press. \$1.00.
- 1 *Latin Anthology*: Ennius, Lucilius, Lucretius, Catullus, Vergil, Horace, Tibullus, Propertius, Ovid, Seneca, Lucan, Petronius, Statius, Martial, Anonymous, Tiberianus, Claudius, Rutilius, Boethius, Publilius Syrus. With notes by A. M. Cook. Macmillan Co. \$1.00.
- Anthology of Latin Poetry*: Selections from sixty-three authors ranging from Livius Andronicus to Boethius. Edited with notes by Robert Y. Tyrrell. Macmillan Co. \$1.25.
- Anthologia Latina, Latin Poets*: Selections from twenty-seven authors, ranging from Naevius and Plautus down to Claudianus and Boethius. With notes by Francis St. John Thackeray. Macmillan Co. \$1.10.
- Latin Literature of the Empire*: vol. I, Prose: Seneca Rhetor, Velleius Paterculus, Curtius Rufus, Petronius, L. Annaeus Seneca, Pliny the Elder, Quintilian, Tacitus, Pliny the Younger, Suetonius, Justinus, Apuleius, Municius Felix, Ammianus Marcellinus, Boethius. Edited with brief introductions by Gudeman. A. B. Co. \$1.80.
- Latin Literature of the Empire*: vol. II, Poetry: Pseudo-Vergiliana, Manilius, Phaedrus, Seneca, Persius, Lucan, Nemesianus, the Octavia, Silius Italicus, Valerius Flaccus, Statius, Martial, Juvenal, Pervigilium Veneris, Ausonius, Claudianus. Edited with brief introductions by Gudeman. A. B. Co. \$1.80.

II.

In the following list are included a number of attractive and well edited texts, containing selections from such works of the more important authors as seem best suited to the high school teacher's program of enlarged reading. In nearly every case, as a matter for the teacher's own preference or convenience, two or more texts covering the same work are given:

- Tyrrell: *Catullus*. Ginn & Co. \$1.40.
- Impson: *Select Poems of Catullus*. Macmillan Co. \$.90.
- Abbott: *Selected Letters of Cicero*. Ginn & Co. \$1.25.
- Cartland: *Selections from the Correspondence of Cicero*. A. B. Co. \$.50.
- Pritchard & Bernard: *Selected Letters of Cicero*. Clarendon Press. \$.75.
- Rockwood: *Cicero's De Officiis*. Book I. D. C. Heath & Co. \$1.00.
- Stickney: *Cicero's De Officiis*. A. B. Co. \$1.50.
- Sibler: *Cicero's Second Philippic*. D. C. Heath & Co. \$1.00.
- Rockwood: *Cicero's Tusculan Disputations* (Bk. I) and the *Somnium Scipionis*. Ginn & Co. \$1.00.
- Rockwood: *Cicero's De Senectute*. A. B. Co. \$.75.
- Moore: *Cicero's De Senectute*. A. B. Co. \$.75.
- Bowen: *Cicero's De Senectute*. D. C. Heath & Co. \$.75.

- Lord: *Cicero's De Amicitia*. A. B. Co. \$.75.
 Price: *Cicero's De Amicitia*. A. B. Co. \$.75.
 Bowen: *Cicero's De Amicitia*. D. C. Heath & Co. \$.75.
 Carter: *Selections from the Elegiac Poets*. D. C. Heath & Co. \$1.25.
 Harrington: *Roman Elegiac Poets*. A. B. Co. \$1.50.
 Wratislaw & Sutton: *Selections from Catullus, Tibullus, and Propertius*. Macmillan Co. \$.60.
 Post: *Epigrams of Martial*. Ginn & Co. \$1.50.
 Stephenson: *Selected Epigrams of Martial*. Macmillan Co. \$1.25.
 Hallam: *The Fasti of Ovid*. Macmillan Co. \$.90.
 Shuckburgh: *Ovid's Heroidum Epistulae*. Macmillan Co. \$.80.
 Anderson: *Selections from Ovid*. D. C. Heath & Co. \$1.00.
 Bain: *Selected Poems of Ovid*. Macmillan Co. \$1.10.
 Miller: *Ovid's Selected Works*. A. B. Co. \$1.40.
 Fowler-Greenough: *Ovid. Selections. Chiefly the Metamorphoses*. Ginn & Co. \$1.50.
 Lease: *Livy: I, XXI, and XXII*. D. C. Heath & Co. \$1.25.
 Greenough-Peck: *Livy: I, II, XXI, and XXI*. Ginn & Co. \$1.50.
 Burton: *Selections from Livy*. A. B. Co. \$1.50.
 Egbert: *Livy: Book XXI and Selections from Books XXII to XXX*. \$.75.
 Dennison: *Livy: Book I and Selections from Books II to X*. Macmillan Co. \$.75.
 Shorey-Laing: *Horace's Odes and Epodes*. B. H. Sanborn & Co. \$1.50.
 Moore: *Horace's Odes, Epodes and Carmen Saeculare*. A. B. Co. \$1.50.
 Bennett: *Odes and Epodes of Horace*. Allyn & Bacon. \$1.40.
 Rolfe: *Satires and Epistles of Horace*. Allyn & Bacon. \$1.40.
 Smith-Greenough: *Horace's Odes and Epodes. Satires and Epistles*. Ginn & Co. \$2.00.
 Kinery: *Selected Letters of Pliny*. Scott, Foresman & Co. \$1.00.
 Merrill: *Selected Letters of the Younger Pliny*. Macmillan & Co. \$1.25.
 Prichard and Bernard: *Pliny's Selected Letters*. Clarendon Press. \$.75.
 Westcott: *Selected Letters of Pliny*. Allyn & Bacon. \$1.25.
 Stuart: *The Germania and Agricola of Tacitus*. Macmillan Co. \$1.00.
 Gudeman: *The Agricola and Germania of Tacitus*. Allyn & Bacon. \$1.40.
 Bennett: *Tacitus' Dialogus de Oratoribus*. Ginn & Co. \$.75.
 Gudeman: *The Dialogus of Tacitus*. Allyn & Bacon. \$1.00.
 Elmer: *The Captivi of Plautus*. Allyn & Bacon. \$1.25.
 Fairclough: *The Trinummus of Plautus*. Macmillan Co. \$.75.
 Harrington: *Plautus' Captivi, Trinummus and Rudens*. A. B. Co. \$.90.
 Morris: *Captives and Trinummus*. Ginn & Co. \$1.25.
 Fay: *The Mostellaria of Plautus*. Allyn & Bacon. \$1.00.
 Sonnenschein: *Plautus' Rudens*. Clarendon Press. \$1.10.
 Wagner: *Plautus' Menaechmi*. Macmillan Co. \$1.00.
 Bond and Warpole: *The Phormio of Terence*. Macmillan Co. \$.65.
 Sloman: *The Phormio of Terence*. Clarendon Press. \$.50.
 Ashmore: *The Comedies of Terence*. Oxford Univ. Press. \$1.50.
 Fairclough: *The Andria of Terence*. Allyn & Bacon. \$1.25.
 Sturtevant: *The Andria of Terence*. A. B. Co. \$1.00.
 Papillon and Haigh: *Vergil's Eclogues and Georgics*. Clarendon Press. \$.60.
 Page: *Vergil's The Bucolics and Georgics*. Macmillan Co. \$1.25.

III.

A third list is taken from a series of reading courses followed by members of the Classical Reading League of New York State, full details of which organization and its work are to be found in the November number of the Classical Journal for the current year. The plan is an excellent one and there is no reason why the teachers of any state should not develop similar reading courses. It has the advantage of definite work specifically outlined, and constitutes at once a challenge and an inspiration to teachers to under-

take and complete one or more courses in "the realization that many others throughout the state are doing the same thing." The courses suggested are of very moderate length and with a demand upon the teacher's time so small that no teacher could regard the extra work as a burden. The minimum requirement is one page a week, while the ambitious teacher may register for as many of the courses as he chooses. The courses outlined for 1916-1917 were as follows:

- A. Prose (Caesar): (a) *Gallie War, Book VII*; or (b) *Civil War, Book I*, or (c) *Civil War, Book III*.
- B. Prose (Cicero): (a) about thirty-three *Selected Letters*; or (b) *The Fourth Verrine*; or (c) *Pro Murena*.
- C. Poets (Vergil): (a) *Eclogues* and *The First Georgic*; or (b) *Georgics II* and *IV*; or (c) *Aeneid VII-VIII*.
- D. Poets (Ovid): (a) *Metamorphoses*, 1500 verses in selections; or (b) *Heroides*.
- E. Poets (Elegiac Poets in Selections): (a) *Tibullus*; or (b) *Propertius*.
- F. Prose Composition: Free composition of the type useful for oral dialogue in the classroom.
- G. Prose Composition: Written exercises based on Cicero and Nepos.

Courses for 1917-18 are the following:

- A. Caesar: (a) *Gallie War, Book VII*; or (b) *Civil War, Book III*.
- B. Cicero: *De Senectute* and *De Amicitia*.
- C. Tacitus: *Agricola* and *Germania*.
- D. Vergil: (a) *Eclogues* and *First Georgic*; or (b) *Georgics II* and *IV*; or (c) *Aeneid, Books VII* and *VIII*.
- E. Horace: (a) *Odes, Books I* and *II*; or (b) *Odes, Books III* and *IV*.
- F. Juvenal: *Satires I, III, IV, V, VII, X*.
- G. Plautus and Terence: *Captivi* and *Phormio*.
- H. Prose Composition: The A-sentences in Exercises I-XV of the Gilder-sleeve-Lodge Latin Composition Book (D C. Heath & Co. \$.75.)
- I. Collateral Reading: Carter, *The Religion of Numa* (Macmillan Co. \$1.00); Duff, *A Literary History of Rome* (F. Fisher Unwin, \$3.50); Fowler, *Social Life at Rome* (Macmillan Co. \$2.25.)

At the conclusion of Professor Canter's paper, the following resolution was passed:

"That the Committee on Library Equipment be authorized to report at the next High School Conference a definite scope and plan for readings by high school teachers"

The following committee was also authorized by this additional resolution:

"Resolved, That the executive committee of the Section is authorized and directed to appoint a committee of three to consider and report a definite outline of work for each of the four years of the Latin course."

Miss Ada Stewart, Peoria, chairman of the standing Committee on Library Equipment, reported briefly and suggested that the following books be added to the original list:

1. Game, Josiah. *Teaching of High School Latin*. University of Chicago Press. \$1.00.

2. West, Andrew F. (Editor). *The Value of the Classics*. Princeton University. \$1.50.

The next number on the program was an illustrated lecture on the Saalburg Collection at Washington University by Professor George R. Throop, Washington University, St. Louis, Mo.

Before introducing the slides, Professor Throop made the following general statement:

The Saalburg collection at Washington University was brought to the United States by the German government for exhibition at the Louisiana Purchase Exhibition held at St. Louis in 1904. The collection illustrates by means of models and enlarged photographs the ancient Roman fortified camp at Saalburg in the Taunus range not far from Homburg.

The exact time of the establishment of the camp at the Saalburg is not known but it was probably in the latter half of the second century after Christ. It was apparently destroyed in the latter part of the third century after lasting something over two hundred years. The camp has been restored in part and can be well traced in the other portions. The praetorium is restored and is being used for a museum. Parts of the walls and three of the four gates are rebuilt of stone, the original material. The ditches and embankments are to be seen in great part as they formerly existed. The camp conforms in essential particulars to other Roman camps from the time of the Empire, as for instance those at Novaesium, Lambaesis, Borcovicus, etc.

The collection is especially valuable for the light it throws on private life and industry. The remains of the houses show the hypocaust system of heating. Many implements of artisans and workmen have been discovered, showing an advanced knowledge of carpentry, forging, masonry, etc. Objects of glass show that it was used for houses even in this remote part of the empire. Surgical instruments indicate an understanding of anatomy and surgery far more than might be expected. The entire collection serves in great degree to illustrate the high degree of technical skill to which the Romans had arrived at this period of their history.

The following slides were shown:

List of the Lantern Slides Shown by Professor Throop to Illustrate His Discussion of the Roman Camp Saalburg.

1. Location of Saalburg
2. Map showing Roman Frontier
3. Situation of the Saalburg
4. Large Plan of Saalburg and Surrounding Country
5. Plan of Praetorium within the Saalburg
7. Side View of the Same Model
8. General Structure of a Roman Camp
9. Plan of a Camp at Borcovicus
10. Bird's-eye View of the Saalburg
11. Photograph of Ditch on the Limes
12. Watch Tower on the Limes
13. General View of the Entrance to the Saalburg as it Appears Now
14. Closer View of Entrance
15. Side View of Gate
16. Porta Principalis Dextra from Inside
17. Porta Principalis Sinistra
18. Reconstructed Model of the Porta Principalis Sinistra
19. Porta Praetoria

20. Praetorium
21. Plan of Praetorium at University
22. Interior View of Praetorium Reconstructed
23. Villa outside Camp Walls
24. Civil Settlement Outside Camp
25. Burial House
26. Well Top
27. Hypocaustum of a Building
28. Model of a Hypocaustum
29. Various Objects Found in Wells, such as Garden Tools, Carpenters' Tools, Masons' Tools, Stonecutters' Tools, Bits, Spurs, Horse Shoes, Surgical Instruments, Jewelry, Glass Ware, Locks, Sandals, etc.

The attendance at both sessions was large and the interest marked. The Section has two committees who will report at the next annual meeting:

1. Standing committee on Library Equipment, charged with the additional duty of reporting a plan for readings for teachers of the classics.
2. A committee to report on what should be taught during each year of the high school Latin course. Valuable results are expected from the work of each committee.

At the conclusion of Professor Throop's address, the Session adjourned.

HARRIET L. BOULDIN, Secretary.

COMMERCIAL SECTION

The morning session of the Commercial Section began promptly at nine o'clock with Mr. G. M. Pelton of Evanston presiding. After the usual routine announcements, Mr. Pelton introduced the first speaker of the morning, Miss Whedon, secretary to the president of the Ingersoll Watch Company, who addressed the Section on secretarial services and some of a secretary's experiences. An outline of her talk follows:

THE SECRETARIAL FIELD—ITS PROBLEMS AND OPPORTUNITIES

By Dorothy Whedon

Secretary to Advertising Manager, Elgin National Watch Company, Chicago

- I. The universal desire for success
- II. Opportunities for success in the secretarial field
 - A. The size of the field
 - B. The wide range of opportunities presented by its various branches
 1. The secretary to the professional man
 2. The social secretary
 3. The commercial secretary
- III. The special inducements of the commercial secretaryship
 - A. "Preferred position"

- B. Apprenticeship to, and mingling with men and women of super-ability
- C. Variety of work
- D. Opportunity for self-development
 - 1. Through contact with many people
 - 2. Through the discipline of routine
 - 3. Through the exercise of executive power
- E. Comparative dignity of work
- F. Definite hours
- G. Salary inducements
- H. The glimpse of the "big game"
- IV. The problems of the commercial secretary
 - A. Necessary qualifications
 - 1. Varying standards of employers
 - 2. The pre-requisites of good health and good appearance
 - 3. Opinions of "those who know"
 - a. Sarah Louise Arnold
 - 1. Character
 - 2. Personality
 - 3. General education
 - 4. Technique
 - b. Helen M. Kelsey
 - 1. College education
 - 2. Special training in business methods
 - 3. Personality
 - c. Ann Pillsbury Anderson
 - 1. Ability to keep a secret
 - 2. A well-developed sixth-sense
 - 3. Method—neatness
 - 4. General education
 - 5. Office Practice
 - d. Alice Harriet Grady
 - 1. System
 - 2. Education
 - 3. Rectitude
 - 4. Versatility
 - 5. Initiative
 - 6. Cheerfulness and enthusiasm
 - 7. Profession spirit—loyalty
 - e. Anne Davis
 - 1. Good reasoning power
 - 2. Proper amount (?) of will power
 - 3. Endurance or hardihood
 - 4. Foresight or preparedness
 - 5. Physical strength as well as mental fitness
 - 6. Skill in commercial subjects
 - 7. Tact
 - 8. Respect for others combined with self respect
 - 9. Quickness
 - 10. Concentration of thought
 - 4. Stenography and typewriting of lesser importance
 - 5. The semi-automatic development of essential characteristics
 - B. Adequate training
 - 1. In the tools of the trade
 - a. Stenography as an entering wedge
 - b. Good routine work an essential to advancement
 - c. Consequences of poor technical training
 - 2. In Office Practice

- a. Necessity of assurance before other clerks
 - b. The efficiency of habit
 - c. The place of bookkeeping—filing—telephoning—etc.
- 3. "Social" training
 - a. Poise
 - b. Self-control
 - c. Courtesy and tact
 - d. Attitude
- 4. English grammar, spelling, and composition
 - a. To prevent errors
 - b. To intercept errors
 - c. Wide vocabulary demanded
 - d. Proof reading and copy editing
 - e. The practical value of wide reading
- 5. Some typical secretarial duties
- 6. Ways of supplementing training
 - a. Knowledge of sources of information
 - 1. Libraries
 - 2. Newspaper bureaus
 - 3. Books of reference
 - 4. Salesmen and visitors
 - b. Trade papers and books
- C. Steady growth
 - 1. Mind action
 - a. Concentration
 - b. Analysis
 - c. Judgment
 - d. Decision
 - e. Initiative
 - 2. Attitude toward work
 - a. As a vocation
 - b. As a means to an end
 - 3. Expansion along general lines
- D. Leaving the secretarial field
 - 1. Prejudice against women in executive positions
 - 2. Difficulty of obtaining capable understudy
 - 3. Failure in the higher position means a new beginning
- V. The secrets of a successful secretarial career
 - A. Know yourself
 - 1. Capabilities
 - 2. Limitations
 - B. Know human nature
 - 1. As exemplified in your employer
 - a. To fill in weak places
 - b. To avoid friction
 - 2. In other people
 - C. Plug

A discussion of the papers followed immediately with many questions being directed at Miss Whedon. Miss Burton, of Arcola, in commenting upon the qualifications of a secretary, said among other things that she advocated a study of Latin as a requirement for students in her secretarial course, and insists that classical, or academic subjects be stressed as a part of the secretary's education.

Mr. I. L. Rogers, of Waukegan, stated that in several instances he had been called upon to advise young people with regard to mak-

ing changes from a position with one firm to a like position with another firm. He asked Miss Whedon's opinion as to how to judge when it is desirable for such people to change positions. Miss Whedon replied, advocating changing around in positions as much as desirable, keeping the following things in mind: first, that the change shall be a step upward, not necessarily from a salary view point, but from a view point of a greater opportunity in the new location; second, that the change shall be made to a firm whose business is of a more interesting nature to the prospective applicant. She further stated that she thought it a good thing to change around so long as the foregoing rules were kept in mind, because in that way a person accumulates experience in a number of different kinds of business, and also is more likely to find the exact kind of work the person is fit for.

Mr. Magruder, of Westville, asked if Miss Whedon thought it advisable to have a course in office practice in the high school curriculum to which she replied that she thought it was advisable; that the more training one had before entering upon secretarial work the more quickly one had a chance to rise.

The Section has great reason for being thankful to Miss Whedon, not only for her interesting talk on the duties and problems of a private secretary, but also for the view-point which the Section received from the talk and discussion afterward.

The second half of the morning program was to have been an address by Dean Swanson of Northwestern University School of Commerce and Business Administration. However, owing to Mr. Swanson's inability to reach the Conference before afternoon, Mr. Robinson, at present acting as head of the course in Business Organization and Administration, University of Illinois, was summarily pressed into service and addressed the Section on this subject of "Business Administration".

In introducing Mr. Robinson, Dean Weston of the Commerce School of Illinois made the following interesting remarks with regard to the University Course in Commerce: "This question of Business Organization and Administration has been one of very great and growing interest to the University. The fundamentals in law, economics, and accounting were established with the beginning of the commerce school. The pedagogics of the subjects were developed and have been developed by other schools. But the field of Business Organization and Administration is a new one and I feel that the development of commercial instruction in the future will be along that line. When the courses were reorganized, the work assigned to the new department of Business Administration was assigned to the

work of Economics, but now a department of Economics, Transportation, and Business Organization and Operation has taken its place. The latter department is a rather mixed department. It includes Business Organization proper, also Law and the other allied subjects. I believe we will have some such development as this in the future. Accountancy and Commercial Law will be separated into separate and distinct departments apart from the school of Business Organization.

"When the course in Business started, Prof. Robinson came into the department of Industry and Transportation and later developed the work in Insurance, Corporation Finances, and finally Business Organization in which field he has contributed something to the literature of the subject. Prof. Robinson has charge of the course in Business Organization at the present time. Having worked so long in this field, I feel that he has something of great value and interest for the session this morning. Prof. Robinson of the Department of Economics."

Mr. Robinson pointed out among other things that the organization and administration of a business were two separate and distinct parts of any business; that organization means a segregation of like kinds of working units into groups where it will most benefit the operating of a business, while the operation was quite a different thing. A business can be well organized and poorly operated, or it may be poorly organized and well operated. In either of which cases, the enterprise does not contribute the degree of efficiency that it would if it were both properly organized and operated.

"We can look at organization from several view points. I will point out one with regard to the relation of the proprietor to the business. In determining this relationship, we must decide who is in control, who is to take the risk, and who is to receive the profit. In a single proprietorship the one single proprietor has all the risk as well as the profit and control. In a partnership this risk, control, and division of profits is divided according to the profits of the partnership agreement. However, the stronger personality in the partnership usually assumes the greater amount of control. In a corporation the stockholders are primarily in control. This is in theory only, for in reality, the best of them are actually in control, for a small number of men usually form an Executive Committee or Board of Control which directs the further organization and operation of the enterprise. Also, in a corporation the risk is limited according to the statutes of the state, and profits are divided usually according to the dictates of the few in control always in proportion to shares of stock owned, but the amount to be proportioned as a whole depends upon the action of this small group of controlling stockholders. While it would be foolish to prophesy that all business organizations in the future will be organized according to the corporation plan, yet our business enterprises will get to the point where every enterprise of sufficient size will be incorporated.

"The organization of ownership and operation are entirely different in a corporation. The ownership may change numbers of times and the busi-

ness organizations and operations remain the same. The ordinary business man who is successful, knows business organization and business operation, but not financial organization.

"It seems to me that high school courses could contain work in Business Organization and Administration from a view-point and study of local enterprises, but it would be difficult if not to say impossible for such a course to include the study of local financial organization."

After Mr. Robinson's address, a general discussion of Business Organization and Administration and its relation to the high school work, followed. Mr. Langdon of Monticello asked what business course would be practical in a secretarial course besides the ordinary course in stenography and bookkeeping. Mr. Robinson replied, emphasizing his previous statement that a limited course in Business Administration and Organization could be added as well as some of the other elementary subjects which would give economic basis for further commercial work. He pointed out that bookkeeping and stenography, while desirable subjects, were only instruments that were used in connection with business management. He felt that a very profitable bit of work could be developed in a study of local business organization from a standpoint of operating; for instance, we could study a bank, a mercantile business, a manufacturing industry from a viewpoint of operating organization, etc., but that so far as the financial organization was concerned, that would be impossible in most cases.

Mr. Langdon of Decatur asked how it was possible for a teacher to get into touch with the business men in such a manner that the teacher and classes could observe the operations of actual business enterprises. Mr. Robinson replied that he believed it was a teachers' duty to get into touch with the business men and that it could be done if the teacher would take the initiative. One good method would be to apply for work during vacation periods in different business organizations.

Miss Glosson of Hinsdale inquired as to whether there were any texts on Business Organization and Administration, to which Mr. Robinson replied that he knew of none.

Miss Barret of Centralia in commenting upon the address said the following: "I don't believe in using text books, nor putting them in the hands of students when it can be avoided. At the present I have organized a Junior Commercial Club for the purpose of visiting different business institutions of Centralia and studying them. No credit is given for this, of course, because it is not a required subject. I have found the business men very glad to have us visit and inspect their enterprises, and are willing to co-operate in every way. I intend extending this work in the future, for I believe it to be very practical and practicable."

Mr. Pelton of Evanston next gave a short talk on the subject, "What Can Commercial Education Do for the Social and Civic Welfare of the United States?" The address follows:

WHAT CAN COMMERCIAL EDUCATION DO FOR THE SOCIAL AND CIVIC WELFARE OF THE UNITED STATES?

Guy M. Pelton, Evanston, Illinois

It is reported that during the year 1914, 18,208 business firms and individuals failed in the United States. This was the largest number reported in a single year for the last fifteen years. This does not include the thousands of individuals in the firms, neither does it represent other thousands who simply closed without any record of failure against their names, but who nevertheless, were conscious themselves that their business efforts had been failures.

As for the reasons for these failures, this same writer has the following to say: "Lack of capital, bad business, war and other reasons have been assigned, and all of these no doubt have had their part. But more fundamental was the failure to recognize, understand and observe certain definite laws and facts. These have been embodied in subjects and courses of study, more or less clearly defined."

It is the study of these subjects that constitutes commercial education. Bookkeeping, stenography, typewriting, penmanship and one or two other subjects are only the elementary studies, while economics, accountancy, business organization and management, salesmanship, advertising, finance, business psychology, and other subjects may be considered the more advanced. Commercial education, in this broader sense, may be a part of every man's education. It is admitted that to teach those subjects which prepare the pupil to hold the routine job, or position, is one of the problems of commercial education. But, there is also a larger problem to be considered, and that is to so prepare our young men and women, that they may become the better and more capable business leaders of tomorrow.

It is true that business can be learned by experience, by hard knocks and by doing business. "But," says one writer, "it is doubtful whether young men starting in business today with the scanty educational equipment of the older men, could ever attain any generous measure of success. The demand is for employees who are trained and disciplined and who are able to do what is asked of them from the time they begin work. The business man of today recognizes the fact that commercial and industrial success is no longer due to blind chance and natural shrewdness, but that training and education are an essential preliminary to a successful career."

At the present time there is a disposition on the part of business interests to co-operate with educational institutions in the effort to introduce and improve business courses, so students may be prepared to take responsible positions in the modern, complex business world. The greatest obstacle to the evolution of modern commercial education has been the attitude of a portion of the educational fraternity itself. Many teachers of both secondary and higher institutions of learning have looked disdainfully upon this form of education. It is a fact that there are teachers of commercial subjects, who have had little or no training for the work they are doing. But what steps have the colleges or universities taken to prepare teachers to handle commercial branches in our secondary schools? Only a very few years ago there was not a state college or university in the United States giving training especially designed to prepare commercial teachers. By 1916 a material change had been made. Nearly fifty colleges and state universities began to offer such courses. But there was practically no uniformity in the methods used, or the courses given.

Now let us consider for a moment the tremendous increase in the en-

rollment of students in this work. One authority tells us that the real growth of commercial education dates back to about 1890. He says, that in 1893 it was reported there were approximately 15,220 pupils taking commercial work in the public high schools in this country. He then says: "At the end of 1895, the number had doubled. In the next twenty years the number had increased to about 161,250, or over five hundred per cent. This development has not been fostered by any directed effort in its behalf, but it has grown in spite of the opposition on the part of many old-line teachers.

A study of the percentage of pupils taking high school studies reveals these facts: The number taking English, the most universal of all high school subjects, increased from 1890 to 1905 about 30%; mathematics, about 10%; Latin, 20%; modern languages, 10%. During the same period, the number taking commercial subjects, with other vocational subjects, increased over 200%." It is quite evident that from the educational standpoint alone, commercial education is doing a great deal for the social and civic welfare of our young people. This is especially true when we consider the fact that the enrollment in our public high schools has been increased, because these subjects are offered.

One of the bulletins of the National Association of Corporation Schools reports as follows: "There is no exact science of education. There is not yet a sufficient body of actually proved facts regarding what knowledge is of the most worth, or what methods bring that knowledge most effectively, or any other undisputable certainty regarding any of the large questions of education, so that any person in possession of education's law can offer himself as an expert. In educational circles, it is the man who uses the heaviest words in the most impressive manner that decides the educational policy.

The need of self-reliant citizens was never greater. The young graduate is not, as were the English school boys of 1700, passing from school to a leisured society of landed gentlemen. He is going into a world of commerce and industry. The core and center of our public school teaching needs to be completely changed. Our boys are not destined for a life of learned dis-course, minute scholarship and composition with the pen. They are headed straight for the store and factory to the number of 950 boys out of every 1000."

We must not get the idea that commercial education stands for narrowness of preparation, and for petty detail only, with its routine. A broad commercial course includes a study of English, science, mathematics, languages, and history. But the great trouble in the past has been that this viewpoint has not been held by a large enough number of people. When it does become more nearly universal, then, and not until then, will this form of education do all that it can for the social and civic welfare of all peoples.

We all know that commercialism has been much denounced. Commerce stands for the exchange of services and values, and the gratification and satisfaction of demands. In the past commercialism has been distorted and perverted, until you and I have gotten the idea that it is simply a game, or contest, in which we are to see who can get the better of the other. It is this idea that has brought about all the iniquities of "big business;" this it is that has made for social discontent and unrest, for class feeling, and for all kinds of antagonisms. The fact of the matter is, that every business transaction can be carried out on a basis upon which everybody, who is a party to it, profits.

So we have the large problems of effective business education pressing upon us for solution. If we do not solve them, our commercial and financial leadership may be destroyed, and our glory, as a nation, may pass to other peoples, who have, or shall have solved these problems. But, we are going to solve them ourselves, and do the work in a highly satisfactory manner. Already we see better teaching methods in use, and better correlation between the secondary and higher institutions of learning. If we accomplish as much in the next twenty-five years, as we have during the past twenty-

we will have done considerable, not only in the preparation of our men and women to become better business leaders, but in the making of better citizens.

The meeting then adjourned until two o'clock.

Afternoon Session.

The hour from two to three was used for Round-Table Talks, section being divided into three groups for discussion of stenography and office training, bookkeeping and accounting, commercial geography, etc.

Group I. *Stenography and Office Training.*

Discussion led by Miss Agnes Barret, Centralia.

Subject: Standards of Measurements for Stenography.

Mr. Doris, Clinton, minimized the value of grading. Grading should be a general estimate.

Miss Parker, Decatur, spoke of the teacher's duty as a helper. Action should not be the standard.

Mr. See, Robinson, maintained that grading should be same as her subjects. Business College not sufficient. More thorough-needed.

Miss Terry, Momence, believed in trying to attain to perfection.

Miss Whedon, Chicago, believed in selection in the Commercial

. Those not suited for Commercial should be dropped. Just would not encourage those who have no voice to sing, neither did we encourage those unsuited for Commercial to stay in Stenography.

Miss Parker gave an able five-minute talk on "Use of the Blackboard in Shorthand". No discussion.

Mr. Orcutt, Bushnell, spoke of the possibilities in "Training for Service". Miss Parker believed that the age of a high school makes a course unnecessary.

Miss Terry, Momence, presented the subject, "Starting a Beginner in Typewriting".

Miss Kraplin of Pawnee spoke for five minutes on "How to Make Better Typists". No discussion.

On account of adjournment to hear Professor Swanson at three o'clock, the meeting was shortened and there was no time for Office Training discussion.

Group II. *Bookkeeping and Accounting.*

Discussion led by H. F. Ford of Springfield and D. Lewis of Milledale. The following list of questions was submitted as possible topics of discussion:

1. Do you begin the study of bookkeeping with the Account? If so, how do you proceed?
Do you begin your work with the study of the Balance Sheet and if so how do you proceed?
How is the time divided between class-discussion and laboratory work?
2. How much time do you devote to the study of business papers? When should it begin? How long should it continue?
How do you avoid waste of time in the laboratory where the papers are used? Can you secure neatness with the great amount of repetition?
3. When do you introduce columnar cash books, to what extent do you introduce them and how?
4. Do your pupils find difficulty in mastering the Cash Book, Sales Book and the Purchase Book? Do you present them in the same set or one at a time in separate short sets?
Do you approve of introducing a number of specially ruled Sales, Purchase and Cash books? Why?
5. Do you teach single entry bookkeeping in the first year? If so, in what part of the course do you place it?
6. Show how you teach the three party draft without confusing the student in his bookkeeping? Should he be required to make the entries on the books of all parties in beginning work?
Do you teach all the accounting of all common forms of negotiable paper at one time, or do you introduce it incidentally and part at a time while studying other principles? When would you introduce such work if you did take up the study of all of it at one time? Would you use short exercises, including other transactions of short exercises, excluding everything else?
7. How do you introduce such items as Cash Discount, Interest and Discount, etc.? Have you ever taught the "penalty theory" of discount to first year students? How?
8. When do you introduce the closing of accounts by journal entries?
9. How do you explain to beginners the reasons for debiting and crediting in accounts when you close one account into another, such as Profit and Loss into Capital, Expense into Profit and Loss, etc.?
10. How do you get the student to grasp the idea of the unity in the ledger?
11. Do you use a classification of accounts for first year students? If so, what terms do you use in classifying them?
12. How do you explain the theory of debit and credit to the first year students? Or do you simply teach them a "giving and receiving" credit and debit rule?
13. When do you differentiate the different Trading accounts and how?
14. What form of Trading statement have you found the easiest of comprehension for the average student? Why?
15. If you had your choice for a course of study in bookkeeping, would you be in favor of selecting the text and laboratory exercises from one system published by one publishing company or would you prefer using several texts and laboratory sets which conform to a standard syllabus but written and planned by several authors? Why?
16. When do you introduce Controlling Accounts and Auxiliary Ledgers? How do you begin the study?
17. Since the modern idea is that initiative should be developed as well as knowledge of routine, what are some of the methods you use in doing this?
Recognizing that this takes more time, how do you cover a sufficient number of the usual sets in the allotted time?
18. What is your method of grading bookkeeping problems and drills?
19. How do you conduct examinations?
20. What books on methods or other teaching helps have you found beneficial and worthy of consideration?

Most of the discussion hinged as to the proper point of beginning the study of bookkeeping. Quite a number advocated beginning with journalizing, others through the construction and interpretation of accounts, and still others the analyzation of business activities, using the Balance Sheet as a guide, thus giving an economic background for the further study of bookkeeping.

Another point discussed was the amount of time given to recitation and the amount given to laboratory work. Perhaps the majority indicated that owing to the time allotted them, most of their bookkeeping work had to be done by the laboratory method. Mr. Lewis of Danville, as well as Messrs. Ford of Springfield, Scovell of the University and Gorrel of Granite City, advocated the division of bookkeeping work evenly between the recitation and laboratory work, and that such a scheme will keep the classes in bookkeeping together in their laboratory work.

The question was asked whether it had been the experience of the members that such intangible accounts, such as Interest and Discount, Mdse. Discount, etc., were difficult to present to students, to which many of them answered in the affirmative.

It was pointed out that if interest and Bank Discount, which is the same thing, were treated as assets consumed in running the business perhaps some of the difficulty could be overcome.

Owing to the shortness of the period, the discussion had to stop here, although there were numerous other questions on which members of the Convention had expressed a desire for discussion.

The Round-Table adjourned at three o'clock to hear Mr. Swanson's talk on Business Organization and Administration.

Group III. *Economics of Business.*

In the Economics Section the topic for Round-Table discussion was the phase of Economics in Business and how it should be presented in the High School Business Courses.

The discussion was opened by I. L. Rogers of Waukegan Township High School, presenting suggested topics, outlines and points bearing on the presentation of the subject and the content of the course. In condensed form his discussion touched upon the scope of work. The practical Economic problems found in the study of Business and how best to co-relate Economics, Salesmanship, Business Law and Accountancy by the separate subject method. The summary of his discussion follows:

From investigation it is apparent, that too much time is lost in teaching, Accounting, Theory of Business, History of Business, Commercial Geo-

graphy, Business Law, Economics, Correspondence and Business English. Too much overlapping of the subject matter in the various prescribed courses.

We must observe man's activities in production, Consumption and Distribution when we take up the study of any organized business. The Laws of Demand and Supply, Relation of Land Labor and Capital, Adjustment of and location of Plants and industries; the functioning of society and valuable services rendered by money and Credit, etc. All these must be tangible things in the mind of the student, before he can expect to be a "Brain Unit" instead of a "Mechanical Unit" in the producing world of today.

We have the three accepted divisions in the study of business and its development; Operative, Communicative and Administrative departments, functioning in every business. The Communicative branches will be ably handled by the Round Tables in Shorthand, Typewriting and Business English. The Bookkeeping section will handle their share of the Administrative work. Now our duty is to thresh out an efficient way to present to our students the Operative and Managerial principles in business.

Personally I feel that Dean Marshall "blazed the trail" for us a year ago when he addressed us here, upon this subject. I am well enough convinced. I am now using his outline in Business Organization and feel that I am getting excellent results. Combined with this outline I use "Lessons in Community and National Life," issued monthly by the National Bureau of Education. These lessons blend nicely with the regular outline and frequently may be substituted in part or whole for some of the regular work in this way keeping the subject up-to-the-minute and much alive from the students point of view, holding present economic conditions constantly in the foreground.

This is a subject so great in scope, that it is impossible for any one or a dozen of men to present *the best way*. I have generalized upon the subject to get the broad aspect of the problem before you. May we not hear from some of you that have something special and tangible along this line? Also I feel that it would be of interest to know how much of such work you think should be taught in the High Schools and how much left for the Universities. Should we generalize over a large area or specialize,—"dig deep" and drive home a few of the orthodox principles?

Mr. R. W. Pringle, Normal University High School, Normal then spoke as follows on the importance of the course:

In this section last year Dean Marshall, in discussing the correlation of high-school and college commerce courses, asserted "that we must make up our minds whether it is the function of the secondary school primarily to train business technicians or to develop business managers or to combine the two." I am certain that no one who has worked with high school pupils and become interested in their future possibilities and welfare and watched the careers of the more successful ones after leaving the high school would hesitate a moment in deciding that the two functions must be combined. The gates of the future must be opened and kept open, so that all who have the ability may pass and fill as far as in them lies the places of responsibility among those who are doing the world's work. If the social and economic welfare of the country is to be made sure, as large a number as possible of our own high school boys must be prepared to solve both the "internal" and the "external problems of management;" and the mere naming of these two classes of problems, as Dean Marshall classified them last year, has a very familiar sound to the student of Economics. Thus, because out of the many pupils who are trained in the commercial curriculums of our high schools a certain percentage will be called upon to organize and manage business undertakings, Economics in some very practical form should be included in all commercial curriculums.

Now, that this work may be interesting and at the same time practical, economic principles and laws must always be made to rest on a *concrete*

basis. With a view to furnishing this concrete support for economic theory, the commercial curriculum of the University High School at Normal provides for a year's work in Commercial Geography, Industrial History, and Economics. If suitable texts were at hand, it would be a great advantage pedagogically to correlate closely in some way the Industrial History and Economic theory, keeping the work in Economics as simple and as applicable to real business situations as possible. To discuss economic laws with pupils from sixteen to eighteen years of age without giving every thing its setting in concrete facts is, to say the least, a waste of time; but, if the great and fundamental laws of competition, supply and demand, money and credit, exchange, and distribution are discovered where they are operative in the actual business world of the present and the recent past, they will have the interest and significance for our pupils that goes with touching real things and meeting actual conditions, and their application to the affairs of the commercial world will be learned in close association with the laws themselves. In brief, the approach to economic principles must be inductive, if the subject is to have a logical place in our commercial curriculums.

Furthermore, if the high school work in Economics is confined to the extremely elementary principles of the subject, as I am urging, there will be no overlapping of effort on the part the colleges and secondary schools in the case of the few high school graduates who go on to college (for the colleges naturally study the more abstract, technical, and subtle phases of economic theory); while those whose education ends with the high school will have the advantage that results from being able to see the working of laws amid the complex industrial conditions which surround them and with some of them must deal.

This in brief is my conception of the kind of Economics that will lead to a better grasp of the many complicated and complex business problems.

Mr. G. M. Pelton of Evanston Township High School, the General Chairman, then spoke upon the practical side of the course, bringing out the following points:

1. The course should be practical.
2. It should be co-related with the other branches in a marked degree.
3. That it should be a two-semester course blending into Business Management and Salesmanship the second semester.

Dr. Swanson of the Northwestern University then spoke upon the importance of Economics in Business, bringing out a number of the points that he mentioned in his talk before the general meeting. He left no doubt in the minds of those present that Economics in some fixed form should be a part of every business course.

The short discussions entered into by the various members present, after the general talks, were very interesting. Mr. Ford brought out the fact that Economics is needed in the vocational courses just as much as in the straight business courses.

The time allotted to the Round-Table discussions proved too short and it was decided to continue the Round-Table next year.

General Session of the Afternoon.

At three o'clock, Mr. Pelton called the whole Section to order and called upon Mr. Weston to again introduce one of the speakers, the speaker of the afternoon being Dean Swanson of Northwestern University. Mr. Swanson's address follows:

The study of business administration might be approached from several angles. It would be possible, for example, to make our study of business by industries, such as the steel industry, the banking industry, the transportation industry, and the like. It might also be possible to make a study of business by factors such as the manufacturer, the wholesaler, the retailer. Such approaches as these, doubtless, have their advantages, but it seems difficult, if not impossible, to work out any comprehensive scheme of study of business administration if we follow such plans of approach.

There is a plan of approach, on the other hand, which differs in all essential respects from other plans and which seems very promising. This is what I choose to call the "functional approach." Every business, no matter what its nature, consists of a group of functions. This fact is brought out by studying the similarities of businesses and regarding as secondary the differences. This study of the similarities of business is essential to the development of a science of business. As long as business enterprises are regarded as isolated units whose differences and peculiarities are noted in particular, we have very little promise of any progress in our study of business administration. It is only as the similarities are noted and studied that we have the basis of operation from which we can proceed. We are justified in placing emphasis on this point, not only from the experiences in the study of business, but also from the experiences of students in other fields of human knowledge. Little progress was made in any of the scientific fields until the study of things as isolated units gave way to a study of relationships and similarities. Thus, as businesses are compared and similarities observed, it becomes very apparent that all businesses consist of functions which, in their elements, are the same.

The functions which we discover are advertising, selling, credits, collection, accounting, insurance, finance, purchasing, storeskeeping, transportation, employment, the elements of organization and management, and adaptation to society. All of these functions are present in every business. These functions can be further sub-divided into more elemental functions. Advertising, for instance, can be sub-divided into such functions as analysis of the market, analysis of the individual, preparation of copy. In a similar manner, all the other functions can be sub-divided.

To illustrate that every business, regardless of its character, consists of these fundamental functions, it is interesting to compare a bank with a manufacturing business. The bank advertises in newspapers, in magazines, by signs, in street cars and through word of mouth. The manufacturer does likewise. The bank sells its deposit and credit facilities as the manufacturer sells its wares; the bank passes on the credit of its prospective purchasers of credit, as the manufacturer passes on the credit of his customers. The bank has the same collection problems as those of the manufacturer. Bank accounting is the same in its main outlines as manufacturing accounting. A bank is financed in pretty much the same way as a manufacturing establishment is financed. The bank has a buying department and the manufacturing establishment has one. The bank stores its moneys and securities and keeps records just as the manufacturing establishment stores its wares and keeps records of its materials. The bank employs men in the same way as the manufacturer does. The banks supply the elements of organization and management and the manufacturer must do likewise. Finally, the bank must adapt its policies and its organization to the needs and conditions of general society. The manufacturer must do the same.

Such a survey of the functions of business gives a cue to the kind of type of business administration which will have in it the adaptability and flexibility to any business. My point is that the approach to the study of business administration lies through a study of all these functions of business because this gives to the student a basic training in the administration of any business, whatever be its nature. Such an approach, too, has in it a certain degree of flexibility. If only a short time can be devoted to the study of business administration, a course can be devised which brings out some of the essentials of all of these functions. As the time allowed and the teaching facilities increase, these functions can be grouped and several courses merged, one, for instance, in advertising, selling, credits and collections; a second, in accounting and finance; a third, in purchasing, stores, employment organization. In this manner the number of courses can be increased until we have one course for each function and beyond that until we have a number of courses for each function. As the functions of business are depicted in detail, the secondary problem of applying the fundamentals of some of these functions to specific industries or specific business units arises, only as a secondary consideration.

My purpose in introducing this subject with a discussion of the functional approach to business is two-fold. On the one hand, it serves to bring out the true position of a course in "Elements of Organization and Management"

function of Business Administration standing on a par with a number of other functions. On the other hand, it furnishes a basis for the planning of courses in Business which, to me, appears exceedingly promising. If training for business is regarded as a training in all of the functions of Business Administration and not one or two of these functions, then we have a better understanding of business education which is broad and comprehensive. The teacher has such an understanding of the nature and extent of business training that both he and his student will recognize the limited training for business—that is frequently given by force of circumstances in our schools and the instructor will better see both the possibilities and the lines of future development of business training.

Organization and management as a function of Business Administration methodically consists of two functions—organization and management. In practice, these functions can be segregated to a considerable extent in large business establishments, but are necessarily merged in all smaller establishments. Even in the larger establishments where the line between them is clearly drawn, there is a great deal of blending, which seems unavoidable.

The organizing and managing of a business refers to both the ownership and operating divisions. Greater emphasis is placed on the Operating Division for the reason that the financing element is so important in the Ownership Division that a large share of the organization and management consists of devices for financial control. This is particularly true of corporations.

For purposes of study, the organizing and managing functions can be profitably segregated, provided that the instructor and the student both realize that the two functions are closely related in actual practice and must be studied, one in the light of the other.

The first question that the student of organization must ask himself, is "What is involved in organizing a business?" To answer this question to the satisfaction of all at this stage of the development of the subject is impossible. Each must contribute, however, a list of factors as a result of my study and observation. As others interested in this subject contribute their results it will eventually be possible to arrive at a satisfactory answer to the question. What organization of business means to me

The assignment to each person of definite duties and responsibilities.
The fixing of clear lines of authority.
The establishment of a fixed relationship of responsibility and authority.
The establishment of Controlling Media over men, materials, processes and equipment.

5. The introduction of functional, territorial and divisional specialization in labor and management to the degree warranted by circumstances.
6. The creation of a mechanism for the correlation or integration of all specialized individuals, departments and processes.
7. The standardization of materials, equipment, processes and activities to the degree warranted by circumstances.
8. The assembling, classification and presentation, of information including the instruction of men.
9. The automatic recruiting of the personnel.
10. The providing of incentives to industry.
11. The elimination of dependence on one individual.
12. The introduction of a degree of participation in the management by all persons connected with the business.
13. The fixing of disciplinary procedure.
14. The adjustment of the design of the organization to the function of the business and to the conditions under which it must operate.

Whatever the character or size of the business, these elements of organization must be utilized and applied in some degree. Although some elements of organization are emphasized more than others in certain business enterprises there is no business which can entirely disregard any one of them. In a business wherein time and dispatch are great factors, the emphasis is placed on such elements as clear outlines of authority, its delegation and control, discipline and incentives, while slight emphasis is placed on specialization and standardization. In the railroad business, likewise, great emphasis is placed on discipline which is a minor factor in a factory where personal supervision costs little. Such factors as the importance of time; the relative permanency of the business; the type of product and the importance of labor are the causes of this variability in the weight attached to the elements.

Most of the elements are not simple as the statement of them might seem to indicate, but are, on the contrary, very comprehensive.

The second factor which concerns the fixing of clear lines of authority, includes a treatment of the sources of authority, a method of delegating authority and the charting of authority.

The third factor which treats of the relation of responsibility to authority, covers such points as (1) the feasibility of having a single individual responsible to a number of individuals and the procedure to be followed; (2) the use of committee system without introducing indecision and confusion.

Factor four includes a treatment of the use of such controlling devices as reports, personal inspection, conferences, and schedules.

Factor six includes the treatment of the numerous correlating agencies, such as (1) the committee or conference system; (2) the encouragement of suggestions and criticisms; (3) the establishment of "get-together" agencies; (4) a study of personal qualities that make for correlation; (5) the definite fixing of responsibilities so that errors can be located and merit rewarded; (6) significance of special financial incentives to co-operation.

Under nine the automatic recruiting of personnel includes the treatment of such topics as provision for training of understudies for all important positions in an organization, and the selection and training of people for all skilled and technical positions.

The twelfth includes the treatment of all the methods that can be utilized in establishing a degree of participation in the management by the persons engaged in the business.

The fourteenth includes the treatment of the many agencies and institutions which enable a man to adapt a business to the current life.

An essential in the teaching of these elements of organization is that the instructor be equipped to illustrate their applicability to a wide range of businesses so that the student can visualize their application and recognize

their universality. Whenever practicable, the application should be demonstrated by means of problems and laboratory work. In my opinion it is impossible to over-emphasize the importance of this phase of the teaching of this subject.

The management of a business offers two aspects. On the one hand, management means the running or conduct of the organization as established. As such it means, in regard to the various factors which we have enumerated under "Organization", that these elements, once having been established, be maintained in the business, viz.,

that lines of authority must be maintained,
that the duties of each new officer must be clearly defined,
that the standards established must be maintained and new ones devised,
that controlling devices must be utilized, and so on.

On its other aspect, management involves

- (1) the formulation of business policies,
- (2) the execution of business policies,
- (3) the initiation of action, and
- (4) the assumption of responsibility.

Business policies are standards of action that control the relationship of a business house to the various groups of individuals with which it comes in contact. A business house must have policies or standard rules of action in relation to its customers, employees, competitors, co-operating agencies. These standard rules of action, which are the basis on which a business house frequently either fails or succeeds, must be formulated by the management. The business manager must not only recognize, but must formulate such policies. He should also be so equipped that he will formulate correct policies. It is in this connection that the importance of the study of the adaptation of a business to society in general is brought out.

A comparative study of the business policies that prevail in the commercial and industrial world, and a study of public opinion as expressed in legislation and numerous other ways, should be designed to equip the student to formulate sound business policies. The importance and method of executing business policies is scarcely less important than their formulation. The importance of action and the assumption of responsibility should need no further emphasis.

As has been intimated, the organization and management of business are rarely separated to a great extent in business practice. Care, accordingly, must be exercised to have the student understand that they are separated in study for the purpose of analysis and clarity.

After a student has studied the elements of organization and management, according to some such plan as has been outlined, he would then be ready, if the teaching facilities and the student's time permit, for a more detailed application of these fundamentals to special fields. There could thus be a course on industrial or factory management where an application is made of the elements of organization and management to production and the factory. In the same manner courses on Sales Management and Office Management can be developed through an application of the fundamentals of management to specialized fields of selling and office administration. A very extreme development of the subject could lead to a further specialization, such as factory management for a particular industry, such as the metals industries, the clothing industries, the leather industries. The elements of organization and management constitute a very important part of business administration as they enter, in some form or another, practically every function of business. Even though a student of business plans only to become a technical expert in business, that is, a salesman, an advertising man, a purchasing agent, or the like, it is most essential that he in every case have an appreciation and an understanding of the elements of organization and management and their significance.

A short business meeting was held immediately after Dean Swanson's address to take care of the following business:

Suggestions for next year's program were made as follows: that we have a paper that has to do with the development of the manhood and womanhood of the students from the commercial educator's viewpoint; in other words, the social science side of our subject.

It was also suggested that the members of the Section would perhaps like to know the organization of the courses as they now are in Illinois High Schools, and a comparison of like data from other states.

It was also suggested that a committee be appointed to revise the syllabi presented in 1916. This was put in form of a motion by Mr. Lewis of Danville, and with the proper second the motion was carried. The committee is to be appointed later.

The meeting then proceeded to the election of officers for the coming year. Mr. Pelton was nominated to again hold the chair as General Chairman of the Section, but for personal reasons declined. Mr. Rogers of Waukegan was then nominated and elected as chairman and member of the executive committee for the coming three years.

Mr. Lewis of Danville was nominated and elected as permanent Secretary, and member of the executive committee for the coming three years.

After extending a vote of thanks to Mr. Pelton for his services for the past two years as chairman of the executive committee, the meeting was adjourned.

COUNTY SUPERINTENDENTS' AND VILLAGE PRINCIPALS' SECTION

The County Superintendents' and Village Principals' Section of the High School Conference met in Room No. 354, Administration Building, at nine o'clock, November 22.

Professor Hollister, the Director of the High School Conference pointed out the urgent needs of the Section in a clear and forceful manner. At the suggestion of Professor Hollister, Mr. W. S. Booth of the State Department of Education, was elected permanent Secretary of the Section. County Superintendent Chas. H. Watts of Champaign County and County Superintendent O. Rice Jones of Edgar County, were appointed as the other members of the executive committee for the Section.

In the absence of Superintendent Ben L. Smith of Tazewell County, Superintendent S. D. Faris of Hancock County presided over the deliberations of the meeting.

The program was carried out as printed with much pleasure and profit to those in attendance.

Abstracts of the first and third papers and the full copy of the second are given below:

THE TWO AND THREE-YEAR HIGH SCHOOLS AS TRIBUTARIES OF THE FOUR-YEAR HIGH SCHOOLS

W. S. Booth, Springfield.

- I. The law makes it possible for Two and Three-Year High Schools to charge tuition for all pupils attending such schools. The school must be recognized by the Superintendent of Public Instruction. The fact that the tuition is paid makes it possible for many small schools to enlarge their courses and strengthen their teaching force. In short, the law is a very great help to all small high schools.
- II. The conditions in Illinois warrant an increase in the number of high schools. It seems safe to say that in all probability the enrollment in the high schools will double in a very few years. Many two and three-year high schools will grow into vigorous four-year schools. Enrollments of 10 or 20 will grow to 100 or more.
- III. These small schools should be provided with strong teachers. In fact, both the graded and the high schools should be provided with the very best teachers. It is not enough to make the teaching force strong at the top and leave it weak at the bottom.
- IV. The county should be the unit in making the two and three-year high schools tributaries of the four-year high schools. If the question is thoroughly organized for each of the counties of the State, there should be but little difficulty in the organization of the entire State.

The above is an outline of the work presented at the High School Conference in November, 1917.

CONFLICTING EDUCATIONAL IDEALS

Robert C. Moore, Carlinville.

The fact that this conference is being held is proof that a large number of educational workers believe in the high school and its further development. Yesterday the superintendents and members of school boards met in Peoria to discuss ways and means of improving the school system. The Illinois State Teachers' Association and affiliated organizations have planned numerous legislative campaigns to advocate and promote the enactment of new laws to make some radical but necessary improvements in this school system. Women's clubs, farmers' organizations, labor unions, and numerous commercial and industrial associations have adopted resolutions concerning changes in our system of public education. Therefore, we conclude that the school system has not yet reached perfection and that changes and improvements must be made in it to adapt it to present and future needs and to adjust it to changing conditions in other institutions and lines of human endeavor.

But, if so many influential people and so many powerful organizations desire improvements and try to have them made, why are they not made, and why is our school system not perfectly adjusted and adapted to the needs of society? Simply because the forces working for school improvement disagree as to what constitutes improvement. Some organizations differ widely from others in their ideals of public education. The purpose of education and, therefore, the function of the public school are still subjects of discussion and are occasionally questions for heated debate or even violent strife. A large element of our citizenship believes in education for a broad culture and intelligent citizenship; and another powerful element believes in, or at least works for, an early specialization for industrial efficiency. Some people be-

lieve that free common schools should mean equality of educational opportunity; others seem to think that every child should carve out his own destiny without much aid, training or encouragement from society. This man says that all the property in the State ought to be taxed sufficiently to give a liberal education to every child in the State; that man says that it is questionable whether one man ought to be taxed to give another man's child even an elementary education, and that it is a great injustice to "taxpayers" to maintain high schools and a university at public expense. One views public education through the warmly tinted glasses of social welfare and altruism; another sees with the sharp, unblinking eyes of individualism and selfishness. One group believes in education for democracy; another group has the aristocratic and autocratic attitude and believes in class education for castes or other social stratification.

After meeting all these types of people with their diverse ideals and conflicting purposes and observing their means and methods, we readily understand why it is difficult for us to make the changes and improvements we believe are so necessary to educational progress in Illinois. After any long, hard effort to promote some progressive measure, during which we have observed, weighed and analyzed the opposition, we are forced to the conclusion that any great improvement or important change in our public school system can come only through a vigorous campaign of education to develop public opinion and after other vigorous campaigns to vanquish the opposition.

Let us consider some of these conflicting ideals and opinions as related to our every-day educational problems. We shall make more rapid progress in education if we understand the essence of the argument on both sides of the questions at issue and the motives of the people making the argument.

We shall find a very wide divergence of opinion even upon the subject of compulsory education. One group believes that every child capable of receiving an education must be brought into school by the state even if it is against the will of the parents and the wishes of the child himself. To the parents they explain that the child must become an efficient social unit and a citizen in a democracy, which require education and a trained intelligence; and they tell the child that he has not yet reached the age of discretion and good judgment and that the state must give him what he needs whether he wants it or not. Opposed to this is the old argument of "personal liberty", and the rights of parents to control their children, to order their lives and to plan their careers. The claim of parents to the service and economic assistance of their children is also still potent in keeping many children out of school.

It may be asked why we discuss this question when we have a compulsory school attendance law in operation. The answer is that there is such a law but it is not in operation,—that is, it is nullified in many districts through lack of enforcement. This year in particular the complaint comes from teachers all over the state that many pupils of compulsory attendance age are remaining out of school or are so irregular in attendance as to disorganize the work of the school. High school principals say that this condition prevails in many high schools, and that many pupils under sixteen years of age are illegally absent from school. The war is blamed for a shortage of labor and at the same time makes necessary the careful harvesting and conservation of crops and other forms of wealth; and the children are kept out of school in the name of patriotism, when the real cause may be the selfishness and greed of parents or other employers. Since the compulsory attendance law has never been strictly enforced and has always had strenuous opposition, is it not possible that its opponents and the beneficiaries of its non-enforcement are now taking advantage of circumstances to nullify it? It is well for strong children of the upper grades and high school to work to the extent of their ability during vacation and out of school hours; but surely they ought not be robbed of their schooling in order to serve continuously in productive labor. Are there not enough men and women past school age

fight this war and do the work of the world without conscripting children? It is the shame of our state that so many intelligent people commend absence from school and defend child labor on the grounds of patriotism and military necessity, while at the same time thousands of able-bodied men and women belonging to our leisure classes, both rich and poor, are idling away their time, and thousands of other adults are engaged in producing luxuries or even goods and materials harmful to the public welfare. It is possible that the war has lessened the supply of labor, increased wages, and increased the demand for child labor; but we are told by those high in authority that there is no real need for child labor. We are told also that we must keep up the attendance and that, in the trying period of reconstruction after the war, the world will need a citizenship educated to know definitely, trained to think clearly, and inspired to act justly. The principles and ideals for which we are fighting cannot be perpetuated without an educated citizenship. Therefore, it is the duty of school authorities to see that the attendance law is respected and enforced, and that those who profit by its non-enforcement do not nullify it by any false claim of patriotism or military necessity.

Another phase of this "personal-liberty" attitude of mind is shown by the opposition to state laws governing the sanitation of schools and the health conditions of pupils. There are still many people, some of whom are school officers in Illinois, who, like spoiled children, expect and demand liberal paternalistic contributions to their spending money and at the same time resent any advice and oppose any regulations as to how they shall spend it. Within the last year, several men who are intelligent enough to represent their communities in the legislature said they were in favor of repealing the health and safety law and that they favored also an increase in the appropriation to the state school fund. Many people who gladly accept financial aid for their local schools declare that the sanitation law interferes with the rights of parents to raise their children as they please and "tramples underfoot the sacred, democratic principle of home rule", as one legislator stated it. However, the sanitation law was not repealed. The teachers by their intelligent explanation and defense and the county superintendents by their wise administration and reasonable enforcement have made the sanitation law an established fact in Illinois.

But some new related questions are arising which are arousing practically the same type of opposition. The medical examination necessary to the selection of efficient men under the conscription law has proven that numerous preventable and curable diseases and physical defects are all too common among our young men. Large numbers of young men were rejected as unfit for military service; and we naturally conclude that they are also unfit for many of the duties of civil life, or at least that their efficiency in civil and industrial life is below normal. We are also forced to the conclusion that, if there is any great loss of American soldiers in this war, the next generation will largely be the offspring of these weaklings and defectives. Many of the examining physicians assert emphatically that it is very wrong for society to neglect the physical welfare of children and to permit them to develop serious physical and even mental defects in adult life from small faults, slight ailments, preventable diseases, and curable defects in childhood and youth. Young men who have been thus branded as defectives are pointing the accusing finger at us and are asking, "Why was I not taken care of in my childhood?" All this has recently increased the demand for medical inspection of schools and the physical examination of pupils by experts. Of course this implies that the public authorities should prescribe remedies and effect cures. Some school authorities now fill teeth, fit glasses to correct faulty vision, prescribe simple remedies and give directions for ventilation and diet. Every step in this direction is strongly opposed by those who maintain that compulsory physical examination is an invasion of sacred ground, and that remedies and cures prescribed by state authority are contrary to the principles of human liberty. There is in this country a powerful organization whose purpose it is to oppose any public functions of this kind and to defend the right of any

individual to live, suffer and die as he pleases. One school of philosophy declares that suffering and over-coming physical handicaps develops the highest attributes of humanity and the purest elements of character. One of the most influential members of the legislature, who strenuously opposes nearly all progressive school legislation, declares that struggling under difficulties is in accordance with the Divine plan for making strong men and that the law of the survival of the fittest is of Divine origin; he does not concede that civilized society should assist in making men fit to survive; and, strange to say, he is not consistent enough to advocate the discipline of toil, sufferings, struggle and poverty for his many friends among the pampered sons of fortune.

We must admit that this subject of compulsory health regulation is fraught with many difficulties for educators. There are several systems of diagnosis, numerous schools of medicine, and many methods of cure without medicine. The osteopath objects to medication by an allopath and to examination by an old school surgeon. The scientific oculist does not believe in the faith cure for compound astigmatism; the regular physician believes it necessary to supplement prayer with quinine to cure malaria; and the Christian Scientist chooses prayer and faith rather than a knife to remove adenoids, or the erroneous belief in adenoids. While all these doctors disagree and quarrel and the worshipers of personal liberty maintain their sacred rights, we teachers do the best we can to make strong, intelligent and efficient men and women out of their children, many of whom are handicapped by astigmatism, adenoids, diseased tonsils, decayed teeth, impaired digestion, flat feet and flatter chests. We are sure that something ought to be done to prevent this retardation and inefficiency caused by physical defects, but we are not sure just what it ought to be.

Let us remember that an excess of public regulation and state paternalism imposes upon personal rights, destroys freedom and weakens initiative; let us remember also that unlimited personal liberty and uncurbed individualism degenerates into the law of the jungle, which is the principle of the survival of the fittest as practiced by beasts.

There must be some line where the powers, duties and responsibilities of the state meet the rights, privileges and welfare of its young citizens. It is our duty to try to determine where that line shall be drawn, and then to lead all conflicting opinions to it.

Several high schools in the state are struggling with a variety of problems, which may be grouped under the title of "social standing in high schools." Or if we were to designate the general problem by naming the conflicting ideals, we would call it, "The struggle between democracy and aristocracy in American high schools." Not much was said about this problem until within the last year; but now, since the revival of the spirit of democracy everywhere, except from Berlin to Constantinople, principals and patrons of high schools who live out of the line of those two autocratic, kaiser-worshipping cities are beginning to call attention to certain features of some of our American ideals since the revival. Too many of us have taken it for granted that our entire public school system has been democratic in organization, administration and spirit. We have accepted without question the panegyric of the Fourth of July orator, in which he declares, as he points to the Stars and Stripes with one hand and the high school building with the other, "In this great American democracy, all children have absolutely equal opportunities to get a high school education, regardless of race, nationality, religion, wealth, or social position." Of course this is the American ideal, but there are some indications just now that we have not attained it.

For instance, not long ago we met upon the same day two high school principals, who evidently differed by having the two conflicting ideals involved in this problem. One proudly stated that "my high school is made up almost altogether of the children of the better classes;" the other lamentably announced that the spirit of aristocracy and snobbery was rampant in his

school, that some of the children of foreign laborers and some from the ranks of poor Americans were becoming so discouraged as to quit school, that he too would soon have a school made up entirely of the so-called "lower classes." Several high schools are complaining that exclusive parties, clothes strutting and snobbery are crowding out true politeness, respect for personality, and the spirit of equality that we would like to believe characterizes all our common schools. The faculty and board of education of a large high school have gone so far as to recommend that all students wear plain clothing and have done all they can legally to enforce the recommendation. Two members of the fiftieth general assembly told the legislative representative of the State Teachers' Association that they would introduce bills to enforce the wearing of uniform clothing by high school students if he would support these bills and thought they would pass. Many high schools are afflicted with exclusive secret fraternities and sororities, which are contrary and fatal to the democratic spirit of the high school, and which often become autocratic in school politics, subversive of discipline and amenable to school management. Two of the most popular bills ever introduced in the legislature were the two bills prohibiting high school fraternities and sororities. Although neither of them became a law, they passed both houses of the legislature by such large majorities as clearly to demonstrate the attitude of the public toward exclusive secret organizations in high schools. We have heard some complaint recently about certain high schools not offering their privileges to all children on equal terms. It is said that the high school authorities in some districts offer special inducements to attract strong students from the grades of the underlying or surrounding districts but do not encourage the mediocre students or the pupils who may have work at some disadvantage. Some complaint is made of high school authorities who solicit students from homes of wealth and culture and arrange their fees for such students, but pay little attention to nearby communities of immigrants or poor laborers. These are a few of the things that remind us that the effort "to make the world safe for democracy" may not be confined solely to the struggle to break the Hindenburg line.

But again some one, who is trying to transfer and apply Darwinian biological principles to civilized society, exclaims: "Oh, but exhibitions of pride and snobbishness will not discourage any poor child that is really worth giving an education! If he cannot survive the treatment of his superiors, he ought to drop out of school and do something else." Now, it may be true that some of us adults have reached the point in our philosophy of life where such exhibitions amuse us or disgust us; and we may even feel sorry for the inferior creatures who have nothing to be proud of but wealth, fine clothes, five-cylinder cars, a purchased social position and a haughty disposition. But in our common, public, free schools, where all are supposed to stand on equal terms with regard to social position and where hard work, mental ability, character and merit ought to determine the standing of pupils, it is very encouraging to adolescent pupils to find themselves practically ostracized from the social life of the school by false social standards. Children in their thirteenth year are usually turning a very critical angle of their lives, when the character of their clothing, their personal appearance, and their social standing mean much to them. They are extremely sensitive and have not acquired a true sense of social standards and life values. Therefore, it may be the turning point in some brilliant boy's life to be "blackballed" by a fraternity or to be nicknamed "milkmaid" because he is manfully trying to pay for his plain clothing and books by working nights and mornings on a dairy farm. The poor washerwoman's blushing daughter, just budding into womanhood, may have only plain clothes and shabby shoes; but she may be "a gem purest ray serene". She may have the potential capabilities to become very useful through her education; but at this stage of life it is only natural for her to have a desire for a good appearance and a longing for the sympathy and admiration of her schoolmates, and not to have that stoical philosophy which might enable her to remain unaffected by the slights and sneers of

that proud beauty with the ribboned pompadour, sparkling La Valliere, crepe de chine waist, tango skirt, silk stockings, and patent leather pumps.

But you may say, "The school is the training place of life; the children will meet these same conditions in after life among adults; therefore, why not get them accustomed to life conditions and ready to meet them?" The answer is that snobbery, special privilege, and false social standards are wrong and out of place even among adults in America, and that the proper education of all our children will tend to eliminate them. Our American public school is the training place for life in a democracy and not in an aristocracy; therefore, the pupils not in harmony with democratic institutions ought to receive the training, if by training you mean changing habits and attitudes to meet conditions. The aristocrats and snobs are the ones who ought to be trained to meet life conditions in a country where a cabin-bred rail-splitter has been elected the chief ruler of "a new nation conceived in liberty and dedicated to the proposition that all men are created equal," and where "government of the people, by the people and for the people shall not perish from the earth."

The differences in the tastes and capabilities of high school students, the division and specialization of labor, the application of science to all industry and the demand for skilled labor have awakened us to the need of what is called vocational education. But here again we find conflicting ideals, and our state is divided into warring camps with clashing opinions and purposes. The great majority of educators maintain that one public school system is enough and that vocational subjects should be introduced into our common schools; but the great employers of labor contend that this type of education ought to be under a separate system, or at least ought to be under a separate management, and the head of a great corporation once stated that the men of wealth in Illinois are opposed to paying increased taxes to support vocational courses unless they can control the administration of those courses. Volumes have been written on the subject, and innumerable debates have been held before legislative committees and elsewhere. An analysis of all these expressions and an observation of the attitude of the debaters enables us to make the following comparison of the two conflicting ideals.

One party believes in real vocational education, which will enable the individual to gain promotion and economic independence; the other emphasizes mere industrial training, which will enable the workman to do some one thing well in a mechanical way, and which may lead him into a "blind alley job," or a work in which there is little hope of advancement. Some of us believe that the public school, at least through the high school, should continue to give all students the foundation of a broad, general culture, as well as vocational ability; others evidently work upon the theory that infantile specialization would be a great blessing to humanity, and, therefore, they would force choice of life work and training for it down into the very grades of the elementary school. This man pictures the ideal citizen as one who is intelligent and efficient in his civic duties, only one of which is making his own living; that man believes that the best citizen is the one of greatest industrial efficiency. Most of us believe that the public school should perform the broad, democratic function of preparing children to be of service to society as a whole; but some of the captains of industry evidently believe that the most commendable virtue of a high school graduate is servility to a boss. We teachers have long been taught that our educational efforts ought to build our pupils into power, personality, character, happiness and humanity; but now a powerful influence is developing which measures the results of education in productiveness of property, dollars and dividends.

Every true teacher, principal and superintendent should enlist for the irrepressible conflict between these two ideals. The battle has waged for years, and is only beginning. A few teachers have become so discouraged by the failure of our continued efforts to get state encouragement and aid to amplify our high school courses that they are almost ready to surrender and to permit the division of our public schools into a dual system with the two parts under separate management. But we must all hold fast to our American

to preserve the unit system with its fundamental purposes. The dual standard is un-American; in fact, until a year or two ago, its best friends proudly said it was "made in Germany." Its establishment here in America is the death of democracy in education and will be the birth of both plutocracy and educational kaiserism.

The subject upon which there is a wide difference of opinion is the matter of financial rewards. There seem to be widely varying notions of the value of equity in awarding compensation for services rendered. This is of great interest to teachers just now, when the cost of living is increasing so rapidly and their wages are remaining practically stationary. We think that this subject should be of interest to all the people of the state, for they are willing to accept a decreased efficiency in public school teaching at a time when the demands made upon the public schools are greater than ever.

We shall consider briefly the operation and results of this *double standard* in awarding compensation.

I agree in theory upon the principle that we all ought to earn what we deserve as a workingman or a teacher who asks for more than he earns is dishonest, to say the least. But the shrewd investor who can make \$100,000 or \$100,000 by a deal in real estate or other legalized method of getting unearned riches is considered an eminently successful business man and is probably pointed out as a model for boys to pattern after.

Everybody agrees that a teacher ought to render service to society at the amount of the salary he receives, and it is almost universally admitted that teachers are very poorly paid for the service they render; but the movement is only beginning to demand that financiers, speculators, big business men, and captains of industry render a full value of service for what they receive in financial rewards.

Prices of nearly all commodities rise and fall in obedience to the law of supply and demand, but the wages of teachers respond very slowly to the law; that is, a scarcity of teachers with a consequent increased demand has little effect in increasing wages, but brings into the work innumerable young untrained teachers and reduces the quality of the teaching. Thus does society deceive itself by accepting quantity for quality in teaching service.

We are informed occasionally that the compensation of the teacher contributes to the growth and development of character and the joys of the life of the sincere, conscientious, and self-sacrificing teacher; and many people seem to think that form of compensation sufficient. We are told that we receive the intellectual and spiritual blessings that come from our teachers without it takes actual, material dollars to buy food, clothing, shelter, and the many other material things necessary to maintain our efficient teachers. It requires strong, healthy, red-blooded, physical human beings to teach live children; we have not yet reached that stage in the teaching that enables the teacher to do without material compensation and assume a purely spiritual form while teaching children burdened with physical bodies.

We are advised that, since the war has laid an enormous burden of expense upon the country, we ought not to expect increased compensation at present, and it is intimated that teachers ought to set a patriotic example by foregoing from asking for more compensation. But here the double standard is plainly demonstrated. Nearly all forms of labor are now receiving much higher wages than two years ago. A news item says that a miner in Pennsylvania received wages of \$347.92 for his work loading coal during the month of October, and that he was somewhat limited by a shortage of coal cars. Railroad companies have recently had an increase in wages and soon receive another, and are already looking forward to the third. A prominent man in public life recently made the undisputed statement that the Carnegie Steel Company will this year make profits of \$500,000,000, which is an increase of \$486,500,000, or 766% more than their normal profits of

\$63,500,000, which was their average profits for the three years preceding the war. Another writer on financial subjects estimates that the Beet Sugar Producers will make \$75,000,000 on this year's crop. The Chicago Evening Post of September 29, 1917, says that the leading copper companies in the first nine months of this year paid dividends of \$140,437,443, as compared with \$107,681,058 for the same period last year, and that in July and August they paid out over \$4,000,000 in extra dividends. The farmer is assured of prices for his grain that are at least twice as high as before the war, and a circular has just been issued by the United States Food Administration Office that contains this statement: "The prices of hogs so far as we can affect them will not go below a minimum of about \$15.50 per hundred-weight for the average of packers' droves on the Chicago market until further notice." We might continue indefinitely citing phenomenal increases in the prices of almost everything,—except the service of teaching. Of course this means that teachers' expenses are increasing very rapidly and their wages very slowly, although their wages have always been low; but teachers are advised to adjust themselves to these conditions by practicing a more rigid economy.

In order to obtain any general and material increase in wages, teachers are compelled to go to the legislature for more liberal appropriations and tax laws for public education. Again the double standard appears. Many people seem to believe that the principal function of the legislature is to protect business interests, while others believe that wage earners deserve some consideration, particularly those wage earners who draw their wages from public tax funds. Many members of the legislature have great consideration for taxpayers when teachers' wages are being considered, but not so much when their own financial rewards are at stake. For instance, one legislator who was most strenuous and persistent in opposing the bill providing for an increase in the salaries of county superintendents was even more strenuous and persistent in promoting a bill to pay the legislators a liberal mileage for their weekly trips to and from Springfield during the session, although he was then drawing a salary that had been increased 75% over the salary for the preceding term in accordance with a law he had also helped to enact.

We are sharply contrasting these difference in standards of compensation and their results in order to make them clear to teachers and to the public. If teachers are to obtain the necessary increases in wages they are timidly requesting, they must know what they have to contend with, they must have a knowledge of economics and present industrial and commercial affairs, and then they must boldly maintain by convincing argument that justice to both teachers and pupils demands more money for schools. If the public still considers public education necessary to the life of our democracy, then the public must be willing to pay increased prices for education as well as for other necessities of life.

It is not necessary to assert that teachers are patriotic, and the bare statement in itself proves nothing. The schools have recently been designated "the nation's second line of defense," which implies that in times of peace they constitute the first line of defense. Within the last year, teachers have been called upon to serve their country by helping promote several of its social and economic purposes necessary to the successful conduct of the war, in addition to performing their usual duties. They have been asked to assist in promoting the sale of Liberty Bonds, in raising enormous sums for the support of the Red Cross and the Y. M. C. A. They have been assigned the special duty of educating the public in the necessity of food conservation and of interesting and enlisting people in that patriotic duty and in methods of practicing it. They have been requested to use their best efforts to educate the children and the general public in the origin and history of our free American institutions and the duties and blessings of citizenship in a democracy. The teachers have responded to all these calls to service and have been given credit for rendering valuable assistance. They

be loyal to their country and its highest ideals; but, as intelligent men, they must interpret those ideals for themselves, and, as responsible citizens of their country, they must have their own opinions as to the best means of attaining them. After considering and discussing some of the principles, ideals, opinions, and purposes affecting education in Illinois, we reach the conclusion that they are not all in harmony with the highest ideals, particularly since the revival of democracy. Some of the most unpleasantly of submarines, poison gas, treacherous diplomacy and iron, and rule by force. Of course it is our supreme duty to crush the spirit of autocracy and Junkerism and Kaiserism but we can do it more quickly and permanently if we cleanse our country of all traces of the same blight.

First, for your consideration and your application to our present problems, the following general principles, which are suggested in this session and expressed largely in terms of today's philosophy. We believe in absolute loyalty to our government at all times, and particularly in a life and death struggle to perpetuate the free popular government. We believe in democracy as opposed to autocracy, both at home and abroad; and we agree with President Wilson's statement, "It is time for the people of the states of this country to show in what practical sense they have learned the lessons of democracy. They are fighting for democracy because they believe in it and not for the application of democracy which they do not believe in." We believe in a strict application of the principles of democracy to all educational problems. We agree with Dr. W. C. Bagley when he says, "The duties of leadership which our country must assume among the nations of the world make imperative the highest possible level of intelligence among all of our people. The other nations, and especially the democracies, will look to this country for the model of a truly democratic system of education." Therefore, we must keep our schools up to the highest efficiency and enforce the compulsory attendance laws to the benefit of the schools to all children. We should carefully inquire into the industrial demands made upon youth of school age under the necessities of war, and we must not permit the economic exploitation of childhood under the camouflage of patriotic pretensions. The school, for the own self-preservation and the public welfare, must enforce sanctions, preserve the health and efficiency of its citizens, and enact child-welfare laws as far as is consistent with the personal freedom, and proper development of the individual. The democratic school must be preserved; secondary schools should be available upon equal terms to all the children of the state; snobbery and exclusions must have no place in them; vocational education must be based upon the unit system and in harmony with present ideals, especially industrial training to furnish cheap skilled labor to the great world. We believe that democracy means equality of rights, of privileges, of duties and responsibilities in proportion to ability. Compensation from society in proportion to service rendered to that any controversion of this principle endangers the safety of democracy. Therefore, we believe that society should take warning from the generally accepted opinion that the compensation of teachers is low and inequitable. We believe in education for democracy and for the child. We believe that "the world must be made safe for democracy and that education through the free common school must and will make democracy safe for the world."

THE HIGH SCHOOL TUITION ACT

O. P. Haworth, Danville

This new high school act is the fourth attempt in this state to provide equal privileges to all the children of the state. The first act which

provided that the tuition should be paid by the local district whenever the parents of the children were not able to pay it, was declared unconstitutional. The second act, which provided that the local district must pay the tuition was held valid, but it worked a hardship on many districts, especially in the southern part of the state, because of their insufficient revenue. This was replaced by an act that provided that the tuition be paid from the state school fund, which was also declared unconstitutional by the Supreme Court.

The present act provides that all territory not in a high school district or a district maintaining a four-year recognized high school shall constitute a school district known as a non-high school district. It provides that this district shall elect a board of education, levy a tax, and pay the tuition of all eighth grade graduates residing in said district to some high school, leaving the selection of the high school to the parents of the children. It provides also that in no case shall the tuition exceed the per capita cost of the school attended.

This law is more nearly founded on equity and justice than were any of the previous laws.

The Supreme Court has repeatedly held that the high school course is a part of the common school course and that districts have the right to maintain a high school.

The constitution makes it the duty of the state to provide free common schools and the state has not met this duty in full until it has provided the privileges of all twelve grades to all the children of the state. Any law of the legislature that fails to do this has failed to meet the full duty of that body as is imposed upon it by the constitution.

This law of full and equal rights to all has been slow in its development as are all laws in a republic, but it has finally arrived and in all probability has come to stay. It marks the close of one of the greatest epochs in development of our school system.

DOMESTIC SCIENCE SECTION

In the absence of Miss Bevier, the meeting was called to order by Miss Florence Churton, Chairman of the Executive Committee. Miss Ruth Wheeler welcomed the members of the Conference to the University and then spoke of the work that is being done by Miss Bevier in Washington, D. C., as Chief of the Home Economics Section of the Food Administration for November and December. Miss Wheeler further said that "Conservation, not Economy" must be the keynote of the people of the United States during this war; that our aim must be the *saving* of fuel, meat, wheat and sugar regardless of the extra expense involved through the substitution of other supplies. The food of both rich and poor should be chosen from that which is not necessary for our allies and armies and that of the rich should be selected as far as possible from the supply which is not within reach of the poor.

After the announcements, the following committee to nominate persons to fill vacancies on the Executive Committee was appointed:

Miss Bessie David, Normal

Miss Grace Huffington, Atlanta

Miss Katherine Troutman, Decatur

Miss Rua Van Horne of the New Trier Township High School

is asked to give the three-minute report on the results of the Conference. The report of the Executive Committee was given by Miss Hurton, the chair being temporarily occupied by Miss Traganza of Bloomington. The report was as follows:

At the end of the last school year, Miss Harrison, the chairman of the Executive Committee for the past three years, resigned her position at the University in order to study at Teachers' College, Columbia. It will be necessary, therefore, to elect someone to fill her place. As Miss Anna Green, another member of the Committee, has moved from Illinois, and Miss Bevier's term of office expires this year, their places must be filled.

The work of the committee for 1917 consisted in arranging a program for the present Conference and in working on the revision of the High School Syllabus. Last year it was thought that an address on "Household Arts from the Vocational Standpoint" would be desirable; consequently, a speaker from either St. Louis or Cincinnati was sought, for in both of these cities the vocational aspect has been emphasized. Through the recommendation of the Cincinnati school people, Mrs. W. E. Stilwell of the University School was obtained to tell what was being done in their schools. During the autumn as the subject of war problems grew more and more important, the committee decided to leave all space, not otherwise assigned, for discussion of ways and means by which classes in Domestic Science can help in meeting the present national crises. As the committee consider the Syllabus to be a good outline as it stands, except for additions, especially of reference books, it was decided to use the time on the program allowed for that discussion in conducting the Round Table on Modifications of Food Work. The sections of the Syllabus were assigned as follows:

Foods—Miss Kathleen Gaynor, La Salle
Home—Miss Bertha Case, Peoria
Clothing—Miss Helen Murphy, Decatur
References—Miss Julia Tear, Chicago

By vote of the members, the report was accepted.

Before passing to the discussion of Modifications in the Food Work Due Present Conditions, Miss Churton referred to an address by Dr. True in 1909 given at the first meeting of the American Home Economics Association, which he sounded this note of alarm: Is the enormous wealth of the country to come into the hands of a few, to be used for the corruption and in of our National life? Is it possible for us to maintain a good home life among the great masses who constitute our population? Are our national resources which we have developed so well to be used lavishly so that they will be gone in a few years? Dr. True suggested that teachers of Home Economics can do a great deal to combat such conditions. First, they should try on research in order to increase the knowledge of Domestic Science subjects; second, they should strive to improve the courses in the schools; and third, they should increase the extension work in order to educate the masses who are beyond the schools. Today this note of alarm is very real. Everyone must give money to save our nation; in our schools the teaching the principles of food and clothing must be emphasized, for they are the background for intelligent conserving; and in order to reach the masses, every teacher of Home Economics should consider herself a member of the extension force and be quick to help wherever she finds a chance. As true Americans, we should be able to adapt ourselves to the conditions at once.

The purpose of this conference is to provide a place for the discussion problems—it is a place in which to confer—where we can contribute ideas which will help others and ask help for ourselves.

The Round Table on Food Modifications was conducted by Miss Elaide Sanford of Mt. Carmel, who spoke of the great need of

saving meat, wheat and sugar for our allies. Miss Bunch, State Leader of Extension Work, gave a brief talk on the necessity of saving beef and pork and stated that from collected data it was found that before the war we were an overeating nation. For example, we should reckon the amount of our food in terms of units, we should find that before the war, the people of the United States ate four units of protein when they should have eaten only two, five of fat instead of one, and four of carbohydrate instead of two. Miss Bunch urged that much cheese, especially cottage cheese, and milk be substituted for meat. In the past year, the amount of milk wasted in this country amounted to the entire quantity of meat used. The supply of milk for children must be kept up to at least one pint a day or we shall have a population suffering from mal-nutrition. Many of the poor are now cutting down the milk supply for the children because of high prices. The use of chicken fat and vegetable oils in place of beef and pork fat should be emphasized. High school students should be taught these things, for they carry their ideas back to the homes. Through the kindness of Miss Bunch, each teacher was given a copy of the Government's "Ten Lessons on Food Conservation".

These remarks made an excellent preface to a talk on fish by Professor Ward, Director of the University Zoology Department and Special Investigator for the United States Bureau of Fisheries, who asked the instructors of Domestic Science to emphasize the teaching of the use and preparation of fish as a meat substitute. Professor Ward said that every fish found in the waters of Illinois is good to eat, particularly the Bowfin (Dogfish) and Carp. Many people are prejudiced against them because of their looks and because they live in muddy streams, but the fish flesh is just as clean as that of the pig or the chicken. These fish have been used for years by families in other parts of the country and they should be utilized now by the people of Illinois in helping to solve the meat problem. He directed the teachers to send to Washington, D. C., to the Department of Commerce, Bureau of Fisheries, for posters and bulletins on the use of fish as food. Miss Olive Percival, who has done considerable experimental work in the cooking of the Illinois fish, spoke of the appetizing, nutritious dishes which can be prepared from them, such as fish cakes, escalloped fish and fish salad.

A collection of recipes for meat and wheat substitutes was given out and the subject opened for general discussion. Miss Mary Teters, school dietitian and instructor in Foods, at the Urbana High School, showed a chart which she uses in her cafeteria to guide the

students in selecting their lunches and to prevent them from taking two meat dishes and three desserts. The plan is as follows:

	15 cent luncheon	12 cent luncheon
Meat or Fish -----		.07
Meat substitute -----	.05	
Cheese dish		
Eggs		
Nut dish		
Vegetable -----	.03	.03
Potato		
Rice		
Macaroni		
Green Vegetable		
Salad or Dessert -----	.05	.05
Bread and Butter -----	.01	.01
Relishes -----	.01	.01
Pickles		
Jam		
	.15	.17

As a wartime substitute for meat, Miss Teeters gave the following recipe for croquettes in which cornmeal is largely used. These croquettes require no crumbing and, in order to save animal fat for the allies, should be fried in cottonseed or corn oil.

10 c. English walnuts ground (2 lbs. 11 oz.)-----	\$2.15
15 c. corn meal (make stiff mush) (5 lbs. 11 oz.)-----	.33
(cool over night)	
8 eggs -----	.32
1 onion	
Seasoning	

\$2.80

This amount makes ninety (90) croquettes which are sold at five cents each. The amount of beef (alamode) to make ninety servings would cost \$5.00.

The following substitutes for wheat flour in pie-crust were given:

1. Grease plate, fill with corn meal and let stand until a filling (custard) is prepared. Empty out the meal, leaving a thick coating on the plate; fill it with custard and bake. It must be served cold. This crust is more digestible than the rolled crust.

2. Use in place of wheat flour for rolled crust:

- ¼ c. rice flour
- ¼ c. bran (or rye)
- ¼ c. corn meal
- ¼ c. rye flour

As substitutes for carbohydrates furnished by wheat and sugar, the extended use of potatoes (white and sweet), rice, parsnips, dates, figs and raisins was urged. One suggestion for the use of sweet potatoes was to serve it as a salad by combining cold, diced potato with canned pineapple and adding Mayonnaise or Boiled Dressing. This would also supply fat from vegetable oils. Miss Bertha Case of Peoria introduced the subject of using more Karo corn syrup and molasses in the place of sugar in cakes and breads. Students should be led to do experimental work for themselves in finding out the amount of syrup needed. Raisins, cocoanut and honey should all be utilized.

Miss Traganza explained the process of obtaining maple sugar from the maple trees and suggested that the many scattered sugar maples throughout the state might be tapped for the sap which could be obtained down in the house. It is not necessary to own a maple grove in order to obtain maple sugar as only four or five trees by the roadside would furnish an appreciable

amount of sugar. Many of the teachers promised to see what they could do to increase the maple syrup supply and to send for United States Bulletin No. 252 which explains the process of making it. It was taken for granted that every teacher realizes that food principles must be taught as energetically as is possible for that work is the foundation of all intelligent conservation and substitution. As the entire morning was taken for the discussion of food changes, the consideration of the syllabus was limited to the giving out of printed lists of new references which were briefly explained by Miss Julia Tear.

The afternoon session opened with Miss Traganza presiding. The nominating committee reported the following nominations: Miss Bevier and Miss Churton of the University and Miss Julia F. Tear of the Hyde Park High School. By request of the Committee on Correlation of Science Work, two representatives from the Domestic Science Section, Miss Ruth Patrick of Hinsdale and Miss Hazel Shultz of Monmouth, were appointed to meet with a general committee for the purpose of attempting to agree on a plan for bringing about greater uniformity throughout the state in the organization of science work in the high schools.

The first paper was given by Miss Lorinda Perry of the University faculty. The paper follows:

THE NEED OF HOUSEHOLD ACCOUNTS AND BUDGETING IN THE HIGH SCHOOL CURRICULUM

In the time of our grandparents, the homes in Illinois were forced to produce practically all of the goods which were necessary for the families, few articles being purchased. Very little money was obtained and very little was needed, for wants were supplied by the families' own exertions. These pioneer conditions no longer exist for, as means of transportation and factories increased, it was found that many goods might be bought cheaper than they could be made in the homes. Thus division of labor developed out. The result is that the family is no longer an economically self-sufficing unit, but has become a consumer with a greatly increased number of wants which are supplied by a variety of means. The modern family obtains most of what it consumes through the expenditure of money and the chief problem is now, not the technique of production, but the technique of consumption of which there are two phases, that of expending money and that of using goods. The former involves a knowledge of business principles and choice of goods as applied to the home and the latter a knowledge of science and art and the use of goods as applied to the home. Both phases are equally important.

Heretofore, in the development of the subject matter of Home Economics, most of the attention has been centered upon the science and art side—upon the use of goods—which is a logical development, for such knowledge sets up standards of choice which form the basis of spending. To purchase food wisely one must know:

The needs of the body

The composition of the various foods.

The way to prepare food so that the most nutrition may be obtained. Whether or not we get the most for our money depends upon our choice in expending. We often assume that a good housekeeper is a good spender but it does not necessarily follow at all and she may be, and frequently is, the

efficient spender. The need for wise expenditure is greater every day the mounting cost of living, which is not a temporary phenomenon due to war, for the problem was intruding itself on public notice before the war. Since so much of the family welfare depends upon wise spending, we are not justified in trusting to luck that women will learn to spend wisely. We must connect up science and art with spending. Mrs. Richards has defined excellently the purpose of spending which is that of securing "not only the most economical, but the most efficient results, not in lavish display, not in large bank account, but in the best developed men and women which are the products of that home."

A budget may be defined as a system of allowance made in advance for the objects of household expenditures to cover one year and intended as a guide in the actual expenditure of income. To build intelligently, we need to have certain knowledge:

- Size of income

- Available resources for family use

- Resources of the community

- Demands from the community

- Needs of the family

- Individual

- Family as a whole

- Minimum actual cost of shelter, food, and clothing necessary to maintain the family in health and economy.

Two sources for this information are the experience of others and the experiences of our own. The first is helpful, but no two family problems of expenditure are alike and because they are so varied, memory or general impression cannot be relied upon. We must then use as a basis for future planning the records which are to be found in careful, accurate, fairly detailed, classified household accounts. It is necessary to emphasize the need for detail and the value of classification. If the accounts are confusing, they are of little use and they are kept, not just to keep accounts, but for the wisdom to be derived from them. An adequate system gives records of date, source and amount of receipts; daily expenses should show the kind, amount purchased and price paid. The daily accounts should be made into monthly totals which in turn should be transferred to a yearly summary.

High School students should be taught the importance of the function of spending and the guidance in spending; they should know the value of a budget and of household accounts and not be allowed to grow up without knowing at least how to buy their own clothes. They should learn how to weigh their wants and expenditures as a whole, that is, to realize that they do not spend for food except as they spend for shelter, clothing and everything else, and that what they spend for food is determined by the size of their incomes. Budgeting should be taught them from household accounts. There is often a tendency to teach Household Science subjects separately—make them closed compartments—and not as a whole. Many women are unfamiliar with business practices and are really afraid of them. They are afraid to attempt the balancing of accounts. Attention to accounts in the High School period may overcome such fear and may establish the habit of keeping accounts for there is need of practice and experience in analyzing data.

No special system need be advocated, but one wants to be sure that one has a system that will give adequate data. If the work is taught in the mathematics class, the instructor should know something of household economics: "Household Accounting" by Shaeffer is satisfactory to use as a reference. The Syllabus of Domestic Science and Art for the High Schools of Illinois provides for the teaching of accounts and budgeting but there should be considerable practice work for the students. They can base their accounts on a text book and supplement it by keeping their own and their family accounts. The senior or junior years are probably the best place for this work,

for then the students can take advantage of the knowledge they have acquired of food and clothing. The publication, "Thrift by Household Accounting", which can be obtained from the American Home Economics Association, Baltimore, for fifteen cents, should prove useful to the instructor. This book was gotten out by the committee for the benefit of the Ellen H. Richards Memorial Fund.

The Round Table on What Our Subject Can Contribute Towards the Social Welfare of Our Country was led by Miss Marguerite Tucker of the Deerfield-Shields High School, Highland Park. Miss Gladys Treat of the Mattoon High School suggested that cooperation between the school and the home is one way of contributing. She said that there is no subject in the High School course that requires more cooperation with the home than does ours, especially in these times, and it is our patriotic duty as well as our privilege to do everything in our power to bring it about. To new teachers, the situation often seems discouraging, the town quite lacking in interest, and the people indifferent and spiritless; but where such a situation exists, there is the most need for activated work which will draw school and town more closely together. Two reasons why we must have cooperation are these: first, to reach the home and make our school work effective; and, second, to show the citizens the importance of the Domestic Science courses in a girl's education. The enthusiasm of a wise teacher soon communicates itself to the girls and when they are interested we may expect the parents to be. A teacher must become interested in the town and its activities whether she wants to be or not,—else her hands are tied. Patriotic programs, events of local interest, local disasters and relief work,—all these must claim her interest and support. In the case of the Mattoon disaster of last spring, no workers were more dependable than their corps of teachers and it did much to cement the good feeling between the town and its schools. Another way is through the Red Cross work. In some towns, the teachers have registered their own pupils, have organized Junior Red Cross Societies, and have joined the Neighborhood Relief Clubs which meet once a week to sew, and besides have done other work. The idea of willing service must be gotten to the girls,—through sending baskets of food cooked in the laboratory to local charities or through bringing in garments to be made over for the same purpose. All such acts, if entered into enthusiastically and whole-heartedly, cannot help but prove to people that our subjects are such as promote the highest interests of the home and it is only in this way that we can make Domestic Science an effective agent in the home.

Miss Ruth Patrick of Hinsdale Township High School explained the organization of the Junior Red Cross, affiliated with the Chicago

l Cross, which her school has adopted. Each student pays a fee twenty-five cents to become a member. The entire student body divided into five classes or units:

I Sewing

Hospital shirts, pajamas, clothes for Belgian and French children, infant layettes, etc.

II Knitting

Scarfs, sweaters, helmets, socks, wristlets, etc.

III Comfort bags, candles (made of newspapers cut in column width, rolled tightly and boiled two hours in paraffin).

IV Wood unit

The boys make packing boxes, wooden knitting needles, bosom boards for use in surgical dressing work.

V Surgical Dressings

Miss Patrick said that so much work could not all be taught by the Domestic Science teachers and, therefore, a mathematics instructor teaches the knitting and others assist as they can. The careful work demanded by the Red Cross has a beneficial effect upon the students in establishing habits of neatness and precision, for they all wish their work accepted. Miss Elsie Hessler of Deerfield-Shields showed articles of Red Cross and Belgian Relief clothing that have been made by the students and spoke especially of what her classes had accomplished in making over old garments. The instructors insist that the clothes that are contributed must be *clean* and after that not a scrap is wasted. Miss Helen Murphy of the Decatur High School and Miss Matilda Voss of the Champaign High School also exhibited Red Cross work which their classes had done.

Mrs. Harriet Rinaker Howe, who is one of the seven district leaders in Illinois, suggested what the Domestic Science teachers can do to help the district leader. The principal thing is for the teachers to inform themselves about the affairs and plans of the nation and then to lose no chance to enlighten other women and the public generally concerning what is to be expected from everyone. They need to be ready to tell *why* "Food Will Win the War" and to show citizens *why* they should not complain of their supplies of coal are diverted in order that these supplies may be sent to factories which are making munitions for our soldiers in the trenches. They need to explain constantly *why* we need to save wheat and sugar and *why* England and France cannot use other cereals as much as Americans at home. The teachers should be members of the various working leagues, should find out who their district leader is and ask her advice about ways for cooperation.

At the request of Miss Ruth Wheeler, a large number of teachers

agreed to make a survey in their districts for the purpose of find out what the people are actually doing to save wheat. They ask at *least* six families to keep a record of the amount of wheat (white, Graham and Entire Wheat) used and the amount of cereals substituted for the wheat flours. The amount may be recd by measure or weight. The principal amount of saving will be in breads, breakfast cereals and desserts. These reports should be sent to Miss Churton, University of Illinois, Household Science Department.

At the close of the discussion, copies of the circular from the Bureau of Education, "Home Economics Teaching Under Present Economic Conditions", were distributed.

Miss Traganza then introduced Mrs. W. E. Stilwell of the University School, Cincinnati, who spoke on "Household Arts from a Vocational Standpoint". Her paper was as follows:

"There has been little of the spectacular in teachers or in teachers' work. This was true up to yesterday, as it were. To this generation of teachers has come a message of rare eloquence and high wisdom. It is the call of the freed spirit of the races that have seen the vision. It is the soul of the nations that have fostered for two thousand years the spirit that has made possible our Public Schools. To the teachers then, the appeal is not one in all the land has the temerity to ask "How do the teachers stand?" They stand intelligently with America's greatest pedagogue, Horace Mann; they stand committed to making possible a surer sense of our human relationships; they stand determinedly to prove that because of what they have done and are doing, it is possible to mobilize the thought processes of the nation for the perfect understanding of the ultimate for which we are to make sacrifices. We have come eons and eons along our upward path toward the perfect man and toward the perfecting of the social and political conditions which cruel experience has seemed to prove be all. The finding of a common denominator for the differences, hopes and ideals of a nation has been better done in the United States than elsewhere. This real progress has been made possible, not by statesmen, priests and prophets, fine and big and praiseworthy as they have been, but by the teachers from Horace Mann to Woodrow Wilson who have brought to its proper high plane the Democratic Idea.

Through the years of the development of the schools, there have been disturbances over the organization of the courses and we still have a perennial waste of energy as to whether there is a cultural possibility in vocational training or whether there is a vocational possibility in a cultural training. There must be some satisfactory method supplied to the friends and enemies of the two supposedly separate kinds of education. The question of the time is beyond question in favor of stressing the vocational. Training in both Greece and Rome was inspired with the vocational aim; in the United States after the safety of our Republic was well established, we began to note the importance of the individual and not to simply take what education was offered. Now one is valuable to one's self, one's family, one's state just the measure that one is thoroughly efficient. The splendid goal of adjustment to life through efficiency must however hold a warning flag inasmuch as the most efficient nation the world has ever known chose to follow its own soul because of faith that its collective efficiency would win the world.

There clings to every girl the idea that Household Arts is large

house—holding no art in real life—reality and ideality are painfully distant. To her the term means cooking endlessly, sewing alway, and darning perpetually. But these are the elements and as elements they are sorely disappointing; but the elements out of which the most perfect vase, picture, gown or building is made are in themselves unattractive and at best poor things; but seen in their completed, perfected relationships they are beautiful beyond description. So the tiresome round of home elements; atmosphere to lighten, to brighten, to enhance can only come by pointing to the whole—the perfect totality—a happy home, rich in great contentment. Another attending plaguing idea that has filtered through from somewhere is that being practical is not quite good form, intellectually speaking. The creation of an atmosphere in which the interdependence of all human talents are justly seen and valued is vital. Henry Van Dyke declares

"Heaven is a life of service"

and begs

"Give us Heaven now".

The partly grasped idea that all vocational training is not altruistic at all, but has an economic basis still knows. That children are to be pushed into lines of least resistance in order that they may become effective producers as early as possible deters many girls from making a choice. Manual labor is only glorious (and the pity of it) to those who do not labor with the hands. These do not see the hardness, the drab monotony, yes, even the social stigma of a life kept going by the sweat of one's brow and the toil of one's hands. There is great need of bringing the vision of the life outside "the job". In order to clear away these troublesome barriers, there may be need of some prevocational stimulation. Children of twelve think in concrete terms, so every skillful method that will make the subject seem real, important, and necessary to the health, happiness and comfort of the family should be used. To the prevocational teacher comes the big opportunity to raise the every-day-ness of home making into something like the reverent awe that is felt for medicine, the law, the ministry. The girls in the seventh and eighth grades cannot unassistedly idealize. They must be helped to see that every added better home helps brighten the good name of the town and ultimately the nation. Teachers must ever indicate the avenue with the wide approach and the receding far look ahead.

The school mortality in the eighth grade has been the cause of much pedagogic mourning. The Junior High School is the Beowulf come to stay this Grendel of our school systems. If a girl is to go to work without high school training, she should have some idea of the nutritive value of food and marketing. She must have a very definite idea as to what constitutes correct taste in dress. An adolescent girl's entrance into the industrial world and her safe conduct through it depends quite as much upon her personal appearance as her mental ability. Our girls need to be shown the vulgarity in extremes always; and that powder and rouge belong rightly to the theater where the real business, the life occupation of the actresses, is "making believe."

The conventional curriculum for Household Arts coupled with regular academic courses for all high schools is: textiles and clothing the first two years; food and nutrition the last two. There are, however, technical co-operative courses in Cincinnati, in which during the last two years opportunities are furnished for alternate weeks in school and shop. Students who take these courses do so in the first place, for economic reasons, and in the second place, to try out the practical application of their theory. During the second year the great forests of occupations are explored—the twenty-two standard professions and the four thousand occupations open alike to men and women indicated. By the beginning of the third year, the vocational idea is generally fixed and it is legitimate then to dip here and there in allied fields of the one vocation. The fourth year spreads out an inviting, richly-rewarding field for orientation. Here is the great teacher's opportunity; here the psychology of the occupation may be glimpsed. The ethical

problems underlying from the point of view of the employer and the employee may be outlined in a way that no future combination of circumstances will ever be able to change. The student brings in to the teacher the practical business view-point with its ethics, its trimming, its make-shifts, and his readjustments, made under high-minded guidance, will do much to hasten industrial peace.

The large attendance of High School teachers at the Conference was very gratifying and the fact that probably every member of the University Household Science faculty was present at some time during the day gives evidence of the spirit of cooperation which exists among our teaching force throughout the state. The Conference closed with a unanimous expression from the teachers that all had missed Miss Bevier.

THE ENGLISH SECTION

The tenth annual meeting of the Illinois Association of Teachers of English convened in the Moot Court Room November twenty-third, 1917. President Cavins called the meeting to order at nine o'clock. After making some announcements, he appointed a nominating committee consisting of Professor Dodge, Miss Morris of Champaign and Professor Paul. After listening to the minutes of the previous meeting, and the report of the Treasurer, the session proceeded to the reading and discussion of papers. The first was presented by President Cavins on the "Standardization of the Subject Matter and Methods". His most provocative suggestion, based upon an examination of tests made upon grade pupils, was that school children should be taught the art of silent reading—that indeed the oral reading so much talked about of late, should not be stressed beyond the third, or, at most, the fourth grade. Maintaining that the pupil should be taught to read rapidly, and that his progress should no longer be measured, as heretofore, by his ability to define and pronounce difficult words, the speaker instanced numerous authorities in support of his contention that teachers ought to exert themselves to improve the reading habits of their charges. Though the paper was highly suggestive, no discussion followed.

Miss McKinney prefaced her Report on the Experiment with Minimum Essentials by pointing out that this was not really to be her report, but that of the assembled teachers who for a year had actually been putting the experiment in practice. Miss Grant of Naperville suggested that some of the requirements might well be pushed back into the eighth grade. A motion followed that the chair appoint a committee of which Miss McKinney should be chairman to urge the adoption in the high schools of the state of the list of minimum requirements. It was also moved that this committee urge the adoption

of the first five requirements for eighth year pupils—in other words, that these requirements be made prerequisite for admission to the high school. The chair thereupon appointed Miss McKinney, Miss Chamberlain of Oak Park, and Miss Turnbull of Mattoon.

The paper by Mr. Widger of Charleston, which followed, was an exposition of the service the English teacher can render by forming an intelligent and patriotic public opinion among the pupils. This paper follows:

THE ENGLISH TEACHER'S BIT

Periodically in the *Chicago Tribune* Cartoonist Orr tells us at a glance "How to Win the War." I am not so foolish as to believe that I can, in the ten or fifteen minutes given me to discuss "The English Teacher's Bit," do as well. But the very fact that I am here in response to the invitation of the program committee may be accepted as evidence that the English teacher does not always attempt to shirk doing his bit.

It may occur to you as I proceed that I have a very prosaic notion of the English teacher's duty toward the war. For I do not propose to speak of the service now being rendered by former members of this Association who are now wearing the uniform of the United States army or navy. Nor do I intend to urge upon you the importance of contributing to the Belgian Relief, Liberty Loans, Army Y, M. C. A. work, or the Red Cross. I pass these not because we have no duty to perform to these causes, but because these are duties which rest alike upon all citizens, whether they be teachers of English, lawyers, merchants, farmers, or blacksmiths. Indeed, the bit of which I wish to speak is not a direct service in the war itself but an indirect service rendered at home, unheroically, in the quiet obscurity of the school room. All who are loyal to the cause of this nation desire to help win the war. What can the English teacher do to help?

First, we can help by performing faithfully in the classroom our daily tasks as teachers. We have been told repeatedly that those who remain at home must keep the home fires burning. If we can judge our own future by the experiences of other belligerent nations there is pretty likely to rise a tendency to slight the work which does not have a direct bearing on the war. Among the kinds of work thus in danger of being slighted is the work of the public schools. It is our duty as teachers of English in common with all other teachers to resist as much as it is possible for us to do any movements that will tend to impair the efficiency of the schools. In spite of the competing interests of the preparations for war going on round about us, we must stand steadfastly loyal to our work as teachers in the schools. That this will help to win the war may not be directly apparent; yet no one would care to deny the importance of the work of the schools in keeping up the morale of the nation. The attitude and conduct of the juvenile population of school age is extremely important. We must cooperate with all other teachers to keep the schools open and to make the schools minister effectively to the needs of the pupils.

In the second place, we may help to win the war by teaching the subject of English better than it has ever been taught before. We are fighting, so it has been said, to make the world safe for democracy. Democracy can be safe for the world only where there is an enlightened public opinion; and an enlightened public opinion will be found only where there is a general and free exchange of ideas. The medium of exchange for these ideas, however, is now and will continue to be language and in our own case English. To understand English when it is spoken, to read it intelligently when it is found on the printed page, to speak it effectively when in the presence of a listening audience, and to write it clearly and convincingly to those not

within the sound of the voice,—these are four essentials to the ideas upon which public opinion rests. The cultivation of the ability in these four things,—to understand, to read, to speak, and to write fairly well,—is the chief business of the English teacher.

"But," some one will say, "the people whom we teach are not who mould public opinion of today which will determine in a large measure the outcome of the war." That is quite true; yet even these boys of High School age help to create public opinion. Besides, we think that the war will be won when the treaty of peace is signed. The permanent results of this present war will be quite largely determined by the generation now in the schools and colleges. After the war, during it, men will need to read, to speak, and to write their mother tongue. This is a remote service yet because of that none the less important the poor widow's mite, the English teacher's contribution here may be but it is not wholly negligible.

Third, in the teaching of English composition the English teacher can do her bit. One of the problems of the composition class has always been to find subjects which are interesting enough to the pupils to lead them to get some real thoughts to express. As far as my observation goes, they are almost all interested in the war. And I have further observed that in this, as in most other matters, the more they learn about it, the more interested they become. All around the pupil, if his attention is directed toward it, is to be found in the newspaper, periodicals, and other publications a mass of material dealing with the war. It is available to every student and it satisfies the interests which he already has. He is ready and even eager to gather facts and to tell what he has found. Using these sources for either written or oral exercises will give the necessary training in collecting material, in organizing it according to plan, and in presenting it so as to interest others. Furthermore, the use of this material the pupil is becoming to a small degree at least, regarding matters about which both the state and national governments are attempting to enlighten the people of this country. For example, the study of English composition which I have personally observed has been used in a week an oral exercise on current topics. Each member of the class has been a subscriber to the Literary Digest. During the past eight or ten weeks the class has discussed with some seriousness and understanding such subjects as Food Conservation, the Liberty Loan, the Red Cross drive funds, vitally important subjects. If, as Mr. McCormick of LaSalle High School says, education proceeds by contagion, and if children attending these schools have no little part in educating their parents, then the results of events gained in the English class may be of more service in the people in the problems of the war than we can now see. Certain kind of work will make for better composition work, and I believe that something toward creating the spirit to win.

In the last place, the teacher of literature may do her bit. It does not constitute all of literature; and literature did not cease to be when Shakespeare, Milton, Burns, Eliot and Dickens died. Literature is alive, fresh, growing mass. There is even a literature of the war and it is of temporary interest only and will not endure the test of time. It has a place. In literature we find often the best accounts of what is going on in the world about us. No one can thoroughly understand the Elizabethans who does not know something of their literature. We advocate replacing the classics with Atlantic Monthly Essays, but we are not so sure that some such exchange in spots would be worth while. I am asking is that teachers of English keep reasonably well informed in the literature inspired by this present struggle, in order that they may lead the students in literature classes to the best of it. If one is studying a novel would it be out of place to advise the reading of "Mr. Britton's Through?" If the essay is being studied, why not let the class read Donald Hankey's "The Student in Arms." Surely the sketch en-

"Beloved Captain" is worth while. If poetry is the type of literature that the class is working with, why not at least read a few of the poems which the war has inspired? Much of it will fit in very nicely as illustrations of the thought of some more classical poem.

Poetry is the language of the emotions. The civilized nations of the world have been profoundly stirred by the great war. Some of their feelings are recorded in their poetry. If one wishes to know the feeling of the English people on the outbreak of the war, let him read John Masefield's August 1914. If one wishes to discover the emotions of the men in the trenches, there is an abundance of verse by men who have lived there. It is not all great poetry; but it is a criticism of the life there.

I believe that it is desirable to stir the feelings of the people here in America. They may have sensed with their brain the fact that we are at war but not all have felt that fact. Here is the opportunity of the teacher of English. This is our particular province. Here we may do our bit. Will we do it?

The paper was discussed by Professor Sherman. The latter affirmed that the public school system is the great American melting pot. "But," continued the speaker, "the melting pot has not of late been doing its work very well. In some sections of our country the English language is neither taught nor spoken. And so, in one way or another, a wedge has been driven into American solidarity. To offset this insidious peril, he urged the teachers of English to wage a campaign for the popularization of American ideals. In such a campaign he suggested the reading aloud daily to the pupils short extracts from the writings of men who have embodied and expressed these ideals. In this connection he mentioned a most suggestive list of writers from which the teacher might select—Tom Paine, Lincoln, Whittier, Lowell, Whitman, and others. He thought the Constitution might also be utilized for this purpose.

Mrs. Meeks of Danville then presented a report on Literary Society Programs, of which the following is a summary:

The function of the high school literary program is the same as that of education—i. e. to prepare for effective participation in life. Furthermore, it is to be planned for adolescents. Hence, it must take account of the strongest traits of youth, which are the love of action, interest in biography, concern with moral issues, the love of sociability group-work. Consequently, it should include four elements: (1) an appeal to the intellect and reason (debate, essay, biography); (2) an appeal to the emotions (music, poetry, oratory); (3) an appeal to the social instinct (group work); (4) an appeal to the love of action (drama, pantomime). The program must have value, surprise, interest, fun. It must avoid narrowness (must not be literary exclusively); staleness; the stereotyped; (must be varied); flatness (the result of hasty preparation); heaviness (those who plan the programs must remember that they are not planning for the entertainment of adults). Finally, the programs should be a prototype of modern American life—unity in variety, and variety in unity.

As a result of the discussion of the paper it was resolved: "That a permanent committee be appointed to receive, secure, organize, and

publish for this association successful ideas, topics, programs, references and points on management for our literary societies; and to Dr. Paul of the University, Miss Morris of Champaign, and Mr. Roberts of Urbana serve on that committee for the ensuing year. This resolution was adopted.

At the afternoon session the nominating committee reported as follows: For president, A. F. Trams; for secretary, E. C. Baldwin; for treasurer, Miss Kathleen Roberts; and as new members of the executive committee, Miss Ada Granby of Highland Park, Miss Es. Chamberlain of Oak Park.

President Lord of Charleston then spoke on the topic, *Everyday English of the Teacher*. Though he urged upon the teachers the obligation to cultivate distinct utterance, he cautioned against pedantic habits of speech, saying that he should much prefer to hear a teacher say "critter" than "creature". In pleading for care in matters of pronunciation, he endorsed Mr. Beecher's sensible advice to conform to the best usage of the district in which we live, even if we live among people who say "eyther" and "neyther", by which means use that pronunciation. Avoid ungrammatical expressions such as the use of *like* for *as*, *someplace* or *anyplace* for *somewhere* and *anywhere*, the use of *real* for *very*. He urged simplicity in speech and the avoidance of pedantic phrases such as "composition ability"—a phrase coined by some "expert" in education. He urged sincerity in speech, affirming that much inexact speaking is due to inherent insincerity in thought. He advocated the reading of good books as a corrective to slovenly speech habits. Finally, he told that example was not enough—that example must be enforced precept.

In the necessary absence of Dean Babcock, who was to have addressed the Conference on the topic, *Better Oral English*, Professor Paul spoke upon that topic. This was a plea for the cultivation of good speech habits, not for special occasions, but to the end that such habits may become automatic rather than the result of conscious effort. To this end he urged the enlarging of the students' intellectual life, and thus extending the vocabulary. That his talk was highly suggestive and practical was shown by the animated discussion it provoked. This was led by Dr. Dodge. One of the most interesting contributions to the discussion was a carefully prepared paper by Miss East of Pontiac. This unquestionably deserves a place in this report of the doings of the Conference, and is therefore so joined:

BETTER EVERYDAY ENGLISH

Bess East, Pontiac Township High School

When I first began teaching it was borne in upon me, as it has been upon every teacher of English from the beginning I suppose, that there was something wrong—"something rotten in the state of —" English Composition—and with all the egoism of the inexperienced I cast about for ways and means of correcting it and securing better everyday English. Faculty cooperation seemed to be one answer to the problem and with this as a clue we started our investigation of the methods that were being used elsewhere. We wrote to several high schools but received little to encourage us from most of them, the typical answer being, "nothing very definite in the way of faculty cooperation in English is being done here." From Decatur, however, whence come so many good suggestions, came the report of a "Better English Week" which set us thinking. The result was, a week set aside for "English Improvement" during the first semester which proved so successful that it was repeated in the English classes with a few changes during the second semester.

The object of our experiment was to bring to the attention of the pupils the number and principal kinds of errors they were making in their speech, and to stimulate in them a latent language consciousness. In an extensive investigation of the grammatical errors of the school children of Kansas City, conducted by Dean Charters, then of the University of Missouri, the object was to improve the course in grammar by basing it on the errors actually made by the children; it involved a constructive program for the school administrators. Our object was not so pretentious; the plan was an expediency measure; it involved a constructive program on the part of the children themselves after the damage had been done.

We have just finished a better English crusade in Pontiac and as our report from that week is more complete than from the Murphysboro campaign, I shall outline the plan we carried out there.

The week before the campaign, a talk was given in Assembly in which the whole program was carefully explained and the way paved for the work. The plan in detail was somewhat as follows:

1. All errors noticed in school or out were recorded in one of two classes "My Own" and "Others," in a notebook to which each pupil was admonished to "stick closer than a brother" during that week.
2. In each class in every department a critic was appointed who kept a record of all mistakes made in class and reported them for discussion at the end of the hour. The critics in the English classes also took a report of the observations of each member of the class since the previous class period and chalked up the complete report for his class in a chart on the blackboard. At the end of the week this chart showed the daily records of each of my five English classes. The other members of the department kept a similar record of their classes.
3. At the end of the week each pupil handed in a complete list of mistakes noted classified in twelve separate groups. This classification of course was only approximately correct.
4. To stimulate interest and keep up enthusiasm posters were plastered around the building in conspicuous places. In these posters we tried to observe the laws of Psychology to be sure the right and not the wrong forms were impressed on the pupils. At the main entrance on Monday morning the pupils were greeted by this sign in bold black type:

"English Improvement Week Is On,
Watch Your Speech!"

Each day a new placard appeared, the last one, "Let no poor English enter here," being pasted entirely across the wide entrance.

Inside the building such words as these kept the pupils on the alert:

"Good English can never die,
Don't try to murder it."

"Are you a member of the
'Have-Went'
Family?"

Eleventh Commandment:

"Thou shalt not murder thy mother tongue!"

"Slovenly speech bespeaks a slovenly mind."

"Good Business demands Good English.
Be businesslike!"

"Ain'tless Week."

"By their speech ye shall know them!"

On the bulletin board the burialground was pictured with headstones marking the resting places of the deceased "I. Ain't," "U. Done," "John He," and the late lamented "Slang" family.

5. Class work in English was largely devoted to clearing up questions on grammar, good usage, etc. This is a very important part of the work.

Thus was every pupil drafted into the crusade for better everyday English and interest kept at a high pitch. It may interest you to hear the results of the week's drive as they came out in the reports. Let me remind you that these figures represent not the number of times the mistakes occurred, but the number of times they were observed. Notice that the same error might be observed by twenty pupils. The classification of errors is based on the report of Dean Charters mentioned above. The record includes the observations of the 122 pupils in my own classes made up of sophomores, juniors and seniors. It is interesting to note (that the juniors not the seniors always have the best percentage and) that Thursday always brought in the largest reports.

CHART NO. I.

	ERROR	ILLUSTRATION	Total observations by 122 pupils	Per cent
I.	Subject of verb not in nominative case.	John is taller than <i>her</i> .	174	2
II.	Predicate nominative not in nominative case.	It <i>was</i> me.	154	2
III.	Object of verb or preposition not in objective case.	All of <i>we</i> Juniors went.	99	1
IV.	Failure of pronoun to agree with its noun in gender, number and person.	I don't like <i>these</i> kind of books.	143	2
V.	Mismatched subject and verb.	He <i>don't</i> understand you <i>was</i> .	780	10
VI.	Confusion of past tense and past participle.	I <i>seen</i> the mistake.	595	7
VII.	Confusion of demonstrative adjective and personal pronoun.	<i>Them</i> boys will be late.	186	2
VIII.	Wrong verb.	<i>Can</i> I go? I shall <i>lay</i> down.	453	5
IX.	Confusion of adjective and adverb.	Do this <i>slow</i> .	277	4
X.	Double negative.	I couldn't <i>hardly</i> bear it.	356	4
XI.	Syntactical redundance.	John <i>he</i> went too. I've <i>got</i> a book.	1,347	17
XII.	Miscellaneous.	(All other errors.)	3,528	44
		TOTAL.....	8,092	

CHART II.

§ Errors	Seniors (38)	Juniors (55)	Sophomores (29)	Totals
I.	27	109	38	174
II.	36	102	16	154
III.	19	58	22	99
IV.	25	89	29	143
V.	114	476	190	780
VI.	137	351	107	595
VII.	22	104	60	186
VIII.	90	211	152	453
IX.	45	89	143	277
X.	69	214	83	356
XI.	227	664	456	1,347
XII.	382	2,204	942	3,528
	1,193	4,671	2,238	8,092
Ind. Av.	31+	84+	77+	
				Av. 66+

What Pupils Think of English Improvement Week.

Obviously, the success of such an experiment depends largely upon the attitude of the pupils themselves toward it. In an effort to find out just how the work was regarded I asked the seniors last year at the close of school to hand in unsigned criticisms of the plan. Extracts from typical criticisms follow:

"Is English Improvement Week worth while, or rather are two English Improvement Weeks worth while? I answer yes. Although many of us take such an attempt to correct our speech as a joke, never-the-less we have to stop and think when we are told that we use a word which really isn't a part of the English language, thirty or forty times a day. Such a concentrated effort to eradicate "ain't from one's speech brings good results."

"English Improvement Week may sow seeds of better speech in our community, if we as pupils give our kindly criticisms to our friends outside of school."

"My honest opinion of English Improvement Week is that it is very helpful. We quite often hear pupils say that they make more mistakes after English Improvement Week than they did before. This is not so. The truth of the matter is before English Improvement they failed to notice their mistakes but by noticing the mistakes made by others they were better able to see their own. This fact alone is encouraging for if one notices his mistakes

and faithfully works to correct them he will eliminate a great many grammatical errors."

"During the two weeks devoted to this work I not only learned my own mistakes, but also to detect mistakes in the speech of other people. Two weeks in the whole school year are only enough to make us see our mistakes but not to take the habit away from us. I think one week of each month devoted to this work would bring about splendid results."

In the next I recognized the writing of a boy who was one of the school's best athletes, captain of foot ball team and a star in basket ball:

"The two weeks we had of improving our English were very beneficial and if it could be possible I think two weeks more would be very much better. I learned more of English Grammar and how to talk in two weeks of this year than I did in either of my first two years in high school.—I have added some good words and have dropped some poor ones.—One month could be spent in English Improvement."

The opinion of a few of the lower classmen came out in some letters which I recently received from the school when the work was carried on last year. One enthusiastic sophomore writes: "I should certainly love to have another English Improvement Week such as we had last year. Although I know we received much benefit from it another would help more."

Another says: "I have found that quite a few pupils' language consciousness has been increased. It is not a seldom occurrence for pupils here to correct their errors before they finish their statements. Some few even feel embarrassed when they make uncorrected errors."

From a sophomore boy comes the following: "English Improvement campaigns do seem worth while to me, for I know that they materially helped me last year. They not only showed me how to improve my vocabulary, but they also brought to my attention the very great need of a larger and more expressive, as well as a more nearly correct vocabulary."

* * * * *

Though English Improvement week as such lasts but five days it must not stop there—as one pupil said, "It is only enough to make us notice our mistakes, not to break them." And so follow-up grammar lessons in which we make rules which we see to have been violated in the errors prevalent in the school form a necessary postlude to the crusade. I believe this kind of grammar is more interesting as well as more helpful than that taken from a text book.

We are constantly on the lookout for relapses into old habits and so the "week" is over "improvement" continues.

Those of us who have at heart the welfare of the Association were gratified this year by the evidence of increased interest on the part of the members of the department of English of the University. Whereas last year only two whose duties did not imperatively require their presence attended, this year *no less than three* appeared. Moreover, these three joined in the discussions and contributed not a little to the success of the tenth anniversary of the formation of the Association.

Heart-warming as was this evidence of interest on the part of the University faculty it was not the most gratifying feature of the meeting. The best thing about the Conference—the thing that those of us who have been members of the Association during the ten years of its existence feel most proud of is its growth; not its growth in numbers merely, though this too is encouraging, but its growth

in power to accomplish worthy ends. Ten years ago at these meetings we listened to rhapsodies about what the study of English *ought to do* for high school pupils. Now, we listen to reports of work actually accomplished, of experiments that succeeded, and, now and then, of projects that have failed; but always what is said is vitally related to the professional life of the teachers. Is the question raised, "What is being done in the way of co-operation among the teachers of various subjects for the promotion of better written work in English?" or "What has been done toward improving the colloquial speech of pupils?" The response is instant. Two or three are on their feet ready to testify of work accomplished and of definite results achieved. By contrast, our earlier meetings seem in the retrospect to have been extremely dull. The writer vividly recalls a meeting five years ago, when as secretary he made his report. Nothing but his aversion to injecting into these formal documents an ill-timed pleasantry deterred him from referring to that fifth anniversary as a kind of wooden wedding. There was nothin wooden about the tenth anniversary, however; and in the liveliness of the discussions, as an evidence of growth, we of the Illinois Association of Teachers of English may well rejoice.

EDWARD CHAUNCEY BALDWIN,
Secretary.

GEOGRAPHY SECTION

The session of the Section was opened by the chairman. After a number of announcements had been made, the secretary's report was read and approved.

Dr. J. L. Rich was reelected as a member of the executive committee.

The motion was made and carried that Dr. Rich call a meeting of the executive committee for the purpose of electing a chairman.

The report of a committee, of which J. L. Pricer was chairman, upon coordinating the science work of the high school, was read. To carry out the recommendation of this committee, Mr. Ridgley moved that Dr. Rich and Mr. Andrews act as members of the joint science committee. The motion was carried.

By unanimous consent, further business was postponed until after the morning program.

Douglas C. Ridgley, of Normal, Illinois, presented the following paper on "What Can Geography Contribute Toward the Social and Civic Welfare of Our Country?"

"The subject assigned for discussion is a formidable one. No subject of the school curriculum, however, can justify its place in the education of the youth of the land unless it has a real and helpful and practical contribution to make in the advancement of social and civic welfare of the individual, the local community, the state, and the nation. We welcome, therefore, the opportunity to discuss briefly the work of geography in its bearing on this very pertinent and pressing question.

"The question as propounded by the committee carries three weighty words of universal import: welfare; social; civic. In Webster's Dictionary we read:

"Welfare: the state of faring or doing well; the state or condition in regard to well-being, especially condition of health, happiness, prosperity or the like negatively, exemption from evil or calamity."

"Social: that is social, in the geneal sense, which pertains to society in general, or has to do with human intercourse."

"Civic: relating, pertaining, or appropriate to a citizen; relating to man as a member of society, or to civil affairs; civil; as, *civic* virtue, *civic* life; *civic* wisdom."

Two other words of the committee's question give point and purpose to the presentation of the subject in the Geography Section of the High School Conference: "geography" and "contribute."

Professor R. D. Salisbury, in an address before the Illinois Council of Geography Teachers gave this illuminating definition of geography: "*Geography is the interpretation of the earth's surface and its climate, and of their relation to life.*"

In Webster's Dictionary we read: "Contribute: to give in common with others, as to a common stock or for a common purpose; to furnish or supply in part; to give for a specified object."

With the chief factors of the question thus in mind, we may find in the statement of the topic the following: What can geography, (the interpretation of the earth's surface and its climate, and their relation to life), studied and understood by all the high school pupils of the United States of America, give, in common with the other subjects of the high school curriculum, (but from its own peculiar point of view), of value to society in general; appropriate, not only to the well-being, the health, happiness, prosperity, and the exemption from evil or calamity, of the individual, but appropriate to the well-being, etc., of all the people of all the nation and of all the world?

Geography is asked to make its contribution along with the other subjects of the high school to this high and noble purpose whereby the nation and the world may develop along lines of mutual understanding and confidence into a community of nations where the life of the nation is as secure and as well guarded as the life of the individual in an industrious and well-governed community of people.

The geographic point of view is a wholesome attitude of mind for development in the youth of our land. It interprets the present more broadly, more concretely, more intimately than any other subject. Its subject-matter involves the ever-present, ever-changing physical environment in which all mankind live and from which they must now, and for all time to come, obtain the necessities of physical existence—food, clothing, shelter—and all the means of human development and progress. In geography, these physical phenomena must be *interpreted* in terms of their influence on and usefulness to mankind. This relationship of the environment to man, and of man to his environment, is vital in the field of geography. Without it, the subject of study is not geography even if so named on the program and in the catalog.

Geography deals with its materials for study in the large; it is the most cosmopolitan of all studies, for every corner of the earth contributes to its teaching material and has for interpretation the relationships between physical environment and the welfare of man. Geography gives a nation-wide and a world-wide view of the materials of immediate present-day interest.

The study of wheat, for example, as a topic in Commercial Geography involves, not only a special study of the activities of our own country, but careful comparison with other countries. It is usually startling to pupils to learn that, while the United States is the leading wheat-producing country of the world, Europe, in normal times, produces more than twice as much wheat as the United States. Such facts tend to a clearer realization of the industrial effectiveness of regions other than our own.

Why do more people live in the eastern half of the United States than in the western half? is a question which is usually answered by the statement: because it was settled first. A few minutes of reasoning based on geographic conditions shows the fallacy of the answer, and drives home the conclusion that the reason is geographic and not historic; that, had settlement been from the west instead of the east, the larger population of the United States now, and for all time to come, must be in the eastern half.

It is common for pupils to estimate that 60, 75 or even 90 per cent of the arid lands of our nation may be reclaimed by irrigation. Geographic consideration of the problems involved shows the basis of the government estimate that only 5 per cent can be brought under the irrigation ditch. Such problems, essentially geographic in character, and their number is large, give a point of view, not likely to be developed in any other subject, to questions of nation-wide importance, a correct understanding of which is necessary to proper and intelligent action as citizens, as voters, and as legislators.

A study of the great present-day transportation routes of the world with reasons for their establishment and development brings the student into an attitude of mind whereby he values the work of other nations in proper relationship to our own. The world-wide exchange of commodities makes necessary a world-wide international cooperation among nations, and shows clearly why the United States is no longer protected by isolation from the world-wide ambitions of an old-world autocracy. The isolation no longer exists, and we must face the new conditions, get our world-wide bearings, and bend our energies to bring about a world-wide democracy of nations in which helpful cooperation, and mutual good-will shall characterize dealings among nations and among men. The intimate interdependence among nations appears with a peculiar strength in geography where the attention is centered on present-day conditions throughout the world.

A universal study of geography in American high schools, with adequate courses, under the leadership of teachers specially trained for their work will give the voters and the statesmen of a few years hence an understanding of national problems not yet possessed by a large portion of the population.

I now turn to some outstanding events in the social and civic welfare of our nation which, as I see them, are at their very foundations, throughout their development, and in their present stage of achievement very strikingly geographic. Without the geographic knowledge in its concrete details the movements to which I refer would have been impossible, and would have been delayed until the geographic basis *had been* perceived by the scholars and statesmen responsible for their initiation and development.

In the seventies, Major John Wesley Powell—soldier, patriot, scholar, naturalist, geographer, geologist, intrepid explorer, and far-seeing adviser of statesmen—after his memorable explorations of the southwest including his perilous journeys through the canyons of the Colorado River, pointed out with true prophetic vision the untold wealth of the millions of acres of waste lands of the arid West to be had when man understood his geographic environment well enough, and had developed his engineering skill far enough to turn the life-giving waters of the mountain snows upon the thirsty, arid but exceedingly fertile soils that lay within reach of the irrigating ditches which were to be.

It required three decades for the people of the United States, and our federal law-makers in particular, to discover the great truths set forth by this modest, scientific investigator walking almost alone in a field which today furnishes homes for millions of prosperous, happy, and contented people.

ple living under the most nearly ideal conditions of civic and social welfare to be found on the face of the earth. Had geographic knowledge been a common asset of the people in general, and of our statesmen in particular, Powell's wonderful revelations of the third quarter of the nineteenth century would have been understood, appreciated, and appropriated long before the opening of the twentieth century.

In the middle eighties, a young man about twenty-five years of age left the busy city life of his boyhood for the ranch life of the Montana plains. His published works, written while living the life of the ranchman, point out clearly how the press of population would require that the ranch of unlimited extent give way to carefully tilled fields wherever geographic conditions permit. His alert mind with its clearness of thought and breadth of vision saw the coming of a land-hungry population while others were boastfully talking of the unlimited free lands of the nation for untold generations to come.

About fifteen years later, this young man with a wealth of varied personal experience rarely equalled by any leader of any nation, *spoke*, and the country *listened*. The clear vision of Powell with reference to the development of the undiscovered treasure of our arid west was understood and championed by the young man of eastern birth and western experience who had become the nation's spokesman; and the first message to Congress penned by Theodore Roosevelt set forth the possibilities and the necessity of a national irrigation law so simply, so clearly, and so convincingly that the *people* heard and understood.

Why? Because Theodore Roosevelt, the most cosmopolitan of our presidents, had the geographic knowledge gained from wide study and wider personal experience to strip the question of all its political impediments and to present it vigorously and briefly with the accuracy of the trained scientist and with the practical fervor of the patriotic statesman. Had the congressmen of 1901 been as thoroughly schooled in geography as in political log-rolling, the passage of the national irrigation law would not have been delayed until the last days of a long session of Congress.

The geographic insight of Powell, Roosevelt, and scores of others who worked single-handed, or in small groups, to further the development of irrigation under federal supervision, has added to our national wealth, when irrigation has done its best, probably 40,000,000 acres of farmland of unsurpassed fertility and productiveness—an area somewhat larger in the aggregate than the state of Illinois, the leading agricultural state of the Union. These desert lands are literally to "blossom as the rose," and to furnish homes, when science has completed its herculean task of reclamation, for 10,000,000 to 25,000,000 of people, or even a larger population.

What can geography do to promote the civic and social welfare of our nation? Given its proper place in the high school curriculum, taught by teachers trained in the interpretation of geographic facts into terms of human life and human progress, geography can give to the common people the key whereby they may unlock the storehouse of opportunity and draw therefrom the means of developing a better social atmosphere in their own communities, and more intelligent civic action which shall impress itself on their immediate neighborhood, their state, and their nation.

In May, 1908, there met at the call of President Roosevelt, at the White House, a memorable gathering as the Governors' Conference or the White House Conference. The governors of all the states with three selected advisers from each state were invited to meet the President, members of Congress, Supreme Court judges, and representatives of scientific societies to discuss the Conservation of Our Natural Resources. The press of population and the rapidly increasing demands of the world's industrial development were bringing home to the minds of wise scholars and statesmen the great fact that our natural resources were not limitless, but that, unless scientific conservation of our wealth of natural resources was set into operation promptly the nation would suffer great and increasing hardships.

Never before in the history of the nation had the scientific men of the country met upon equal footing with those engaged in politics. This three-day session of scientists and statesmen set on foot a movement, the importance of which cannot be overestimated. It aimed at the scientific control of the nation's bank account—its natural resources, more extensive, more valuable, than the natural resources of any other nation in the world, the greater heritage left by the bounteous hand of nature to any people at any time. The correct evaluation of the conservation movement, its possibilities, and the necessity of prompt action, is essentially a question of geography, for it has to do with the interpretation of the earth's surface and its climate and the relation to human life and progress.

If all our lawmakers of 1908 had possessed a nation-wide, scientific concept of the geographic conditions under which our people live, a concept readily obtainable in a high school course in which geography is given its legitimate and rightful place, and had they applied this knowledge in a practical way as recommended by our President, the Governors and their scientific advisers who did have this geographic insight, the conservation movement would have received in 1908 and 1909 such an impetus that today we would stand first among nations of the world in the application of science and common sense to the greatest problem of peace that has faced any people, the Conservation of the Natural Resources of the United States so that the world do the greatest good to the greatest number—and that for the longest time; for this is true conservation.

What happened? Instead of enthusiastic support from Congress, the movement was hampered at every turn. Its splendid development has been brought about by the private enterprises of those outside of Congress, who understood, rather than by patriotic foresighted statesmanship in Congress. A Senate committee refused an appropriation of \$25,000 for the expenses of the national conservation commission. The President then called on the scientific bureaus of the government to provide the needed information from their departments. The House of Representatives called a halt to this procedure by attaching a clause to the sundry civil service bill prohibiting all government bureaus from doing work for commissions appointed by the President regardless of the value and timeliness of the work.

In a few months, however, before such unwarranted action was taken, material was gathered and published in three precious volumes in a small edition. This report of the national conservation commission contains the only inventory of our natural resources yet made. Its facts are so illuminating that full knowledge of them should be as widely disseminated as possible, yet the committee on printing consisting of three members of the House of Representatives blocked the plan to publish a large, popular edition of this great work.

But what does this have to do with geography in the high school? Simply this: If our lawmakers of 1908 and 1909 had had a concept of geographic factors in our national life they would not have blundered in handling the greatest problem of peace times that has ever come before a legislative assembly. They would, I hope, have practiced patriotism instead of playing petty politics in the handling of such a momentous problem.

President Charles R. VanHise of the University of Wisconsin, a leader in the conservation problem, in his splendid book, *"The Conservation of Natural Resources in the United States,"* says, "Bringing an appreciation of the importance of conservation to the foreground of human consciousness is a work which cannot be done by one man or one organization in one year, or by many men and many organizations in many years. It is a campaign of education which will extend through generations. But losses have already been so great that the movement should be carried forward as rapidly as possible, especially in preventing further wanton waste. This must be done if our descendants are to have transmitted to them their heritage not too greatly depleted."

How, then, may this campaign of education be carried on by geography teaching in the high schools? Only if those who make high school curricula

have an appreciation of the contribution of geography to the mental equipment of the students, as a preparation for the civic and social life in which they are soon to become responsible members, and, having this appreciation, if they give geography its legitimate place in the high school curricula. If the high school has a full year of geography in the earlier years of the course, with a half year in the senior year in which special attention is given to the geographic, civic, and social aspects of the great conservation movement, a host of lawmakers would be developed with sufficient scientific insight and common sense not to blunder hopelessly on a question so vital as this to the civic and social welfare of our nation.

In as much as a difference of opinion had existed at the 1916 meeting of the Section, two committees had been appointed to prepare syllabi representing the two view points concerning a second year's work in Geography. Owing to the fact that the chairman of one committee moved from the state, no syllabus was presented by this committee. Mr. Large, of Joliet, was called upon at a late date to present the view point of this committee. This he did in outline.

Miss Anna L. Weller, of Charleston, presented the syllabus of one committee on "A Second Year Course in Geography". Miss Weller in introductory remarks stated that the syllabus was presented not as a finished work but as one to be tried, subject to revision. The object also was to secure not only more work but better work and to require trained teachers for the subject.

AIMS.

Among the aims in mind in working out the course were these:

1. That pupils in high school should have such a knowledge of the countries of the world and their relations to each other as would aid in other studies and make intelligent readers and conversationalists.
2. That they should be able to understand the geographic causes back of economic conditions and political events.
3. That they should know how to get hold of geographical material.
4. That they should learn to look upon foreign countries not just as strange places inhabited by strange peoples but as places inhabited by people influenced much as are we by the natural conditions under which they live so that if we are living in the foreign country we would be much as they are, barring only effects of racial characteristics.

Basis. In working out a course with these aims in mind we considered just what could be taken for granted as a basis for the work. We felt that the first year's work in Physiography should give that basis and that we should relate the second year's work as closely as possible to this. Accordingly we tried to make use of the pupils' knowledge of surface and climates, etc.

Method of Approach. Since in a year's work it is impossible to make a detailed study of the world, we have chosen certain regions as types to be studied in detail, suggested others with similar conditions and tried to show that similar types of environment give similar broad characteristics of people and industries.

We have felt that climate is the greatest of geographic factors determining the development of the people and nations and therefore have emphasized that influence more in detail than such factors as surface and coastline though these have not been neglected.

In choosing the type areas we have tried to choose those where the environmental conditions to be illustrated could be most easily separated from other influences.

Leading up to each unit of work we suggest a short review of the facts learned in Physiography which form the basis for the unit of work.

In the column headed exercises we have placed some suggestions as to method but have had no idea of being able to direct the teacher with initiative as to an exact order of procedure.

Very little, if any, suggestion has been made as to drill work taking it for granted that any good teacher knows the necessity of drill in this as in other subjects and that methods of drill will vary with different teachers, different classes and from time to time. Neither have we thought that all the facts to be learned could be indicated in an outline.

Although throughout the course many parts of the home country have been used as types it has been planned to use the fourth quarter of the year for a study of the United States, at the same time using it as a summary of the year's work.

Mr. Large presented an outline of an alternative course in second year geography.

The two view points presented by the two reports were discussed by the Section and finally upon motion by Mr. Ridgley the syllabus presented by Miss Weller was accepted by the Geography Section.

In view of the fact that the discussion brought to prominence the need of better trained teachers of Geography, the following resolution presented by Flemin W. Cox was adopted:

"Resolved, That the Geography Section of the High School Conference respectfully call the attention of the Director of the Summer Session of the University of Illinois to the fact that although Physiography is taught in a large number of the high schools of Illinois, no courses in Geography have been offered for some time by the Summer Session of the University.

"Be it further resolved that the Geography Section of the High School Conference urge the Director of the Summer Session to consider the advisability of adding courses in Geography that will prepare teachers to teach this important subject in the high school."

The motion to adjourn was made and carried.

HUMAN GEOGRAPHY.

A SECOND YEAR-COURSE IN HIGH SCHOOL GEOGRAPHY.

Prepared by a Committee of the University of Illinois High School Teachers' Conference, 1916-1917.

Geography should be a major subject in all high schools of warrantable sizes. Instead of relegating the teaching of fragmentary geography to teachers of other subjects, scattering its unwelcome fragments about the high schools, high school geography should constitute a department which is on a par with other departments of prime importance. The present world-wide awakening demands of the schools that adequate training be given to direct this widening of the horizon of the common mind so that adequate and safe

readjustments may speedily be made to the changed conditions. Geography is the most important core about which the new adjustment must be made.

To further this aim the Geography Section of the Conference has prepared outlines both for a ninth-grade year-course, which was published by the Conference in its report for 1913, and now submits a tenth-grade year-course in human geography.

This outline is intended primarily for the teacher's use. The material at present is widely scattered, and no text book covering, even approximately, the ground of the outline is available.

The committee urges that the various regions be studied, not mainly as a review of physiography, but as types, and that their relationships and contrasts with other regions be continually borne in mind and emphasized to the end that the pupils be led to a broad understanding of world relationships in their illuminating determinations of human welfare and progress.

W. E. ANDREWS, Chairman.

J. L. RICH,

ANNIE L. WELLER,

JAMES H. SMITH,

Committee.

"Geography is the interpretation of the earth's surface and its climates and of their relation to life."—Salisbury.

GENERAL OUTLINE.

- I. Climatic Regions of the Earth and Their Relations to Man.
 - A. Equatorial Rain Belts.
 - B. Trade Wind Belts.
 - C. Monsoon Regions.
 - D. Prevailing Westerly Regions.
 - E. Polar Caps.
 - II. Topographic Types and Their Relations to Man.
 - A. Plains.
 - B. Plateaus.
 - C. Mountains.
 - III. Coast-Line Types and Their Relations to Man.
 - IV. Human Geography of the United States.
- Topics Nos. I, II, and III to be allotted three-fourths of the year; topic IV, one-fourth of the year.

I. Climatic Regions of the Earth and their Relations to Man.

TOPICS.	EXERCISES.	REFERENCES.
1. Introductory study a. What is climate? b. Significance of climate. Control of plant and animal life. Control of food, clothing and shelter. Influence on occupations.	Have students prepare a list of specific ways in which climate influences or controls food, clothing, shelter and occupation.	Dryer, 217, 221, 289-297. Newbigin, Modern Geography, 82-111. Smith, Commerce and Industry, 1-8. Robinson, Commercial Geography, 29-38.
2. Climatic regions of the earth. a. The wind belts as a basis of subdivision of the earth into climatic regions. (1) Wind belts of the earth, (mention). Doldrums or equatorial calms. Trade wind belts. Tropical calms. Westerlies. (2) Rainfall and temperature in each belt as related to winds and calms. b. List of climatic regions of the earth. (1) Equatorial rain belt. (2) Trade winds belts. (3) Monsoon regions. (4) Westerlies.	Prepare charts of the earth showing wind systems in January and July. Rel., Longman's New School Atlas, p. 6; Tarr & McMurry, 208, 209, 210; Brigham & McFarlane, 2d book, p. 264.	Herbertson, Handbook of Geography, Vol. 1, 99-100. Ward, Climate, 80-32. Tarr & McMurry, New Geographies, 2nd Book, 208-218. Brigham & McFarlane, 255-258.
A. Equatorial rain belt. a. Location. b. Countries affected.	Make list of countries or parts of countries in Equatorial Rain Belt.	

TOPICS.	EXERCISES.	REFERENCES.
c. Climatic conditions. (1) Temperature. (a) Continuous high temperature. (b) Ranges. Seasonal. Daily. (2) Moisture conditions. Humidity. Cloudiness. Rainfall. Amount. Rain seasons. Daily thunderstorms.	On a map of the world show the extent of this belt. Ref. Longman's, p. 6. Make rainfall map of the earth for this belt, Longman's, p. 6.	Salisbury, Barrows & Tower, (S. B. T.), Elements of Geography, 160-164. S. B. T. Modern, 102. Ward, Climate, 89-98. S. B. T. Modern, 102-108.
d. Plant and animal life. Plant. Equatorial rain forests. Animal. Type forms (mention).	Make map of earth showing areas of dense equatorial rain forest.	Herbertson, Man and His Work, 37-38. Herbertson, Handbook, Vol. 1, 110-111. Dryer, p. 229-231. Dodge, Adv. Geography, 66, 67, 68.
e. Typical regions. 1. Amazon Basin. (a) Location and extent. (b) Climatic conditions. Heavy rainfall. Continuous heat. Great humidity. A typical day in the Amazon Basin. (c) Surface and Drainage. Extensive plains with gentle slopes.	Have students work out and describe a typical day in the Amazon Basin. From all available sources, prepare a detailed map showing rainfall, vegetation, density of population and products of the Amazon Basin. Study the Amazon River noting: length, slope, rate of flow, width, height of flood, character.	Dryer, 491-492. Tarr & McMurry, 243-244. Herbertson's Handbook, Vol. 2, 595-599. Bowman, South America, 287-269. Chamberlain, South American Reader, 49-58. Roosevelt, Through the Brazilian Wilderness, Chapter 10. Ballou, Equatorial America, 80-81. Bruce, Brazil and the Brazilians, 144-157. Nat. Geog. Mag. III, 3-5.

TOPICS.	EXERCISES.	REFERENCES.
<p>Numerous large rivers tributary to the Amazon.</p>	<p>and width of mouth, flood-plain, islands, banks, etc. Effect upon ocean out from the mouth.</p>	<p>Jour. School Geog. I, 198-200. Vincent, Around and About South America, 356-357. Enock, Republics of Central and South America, 106-124. Enock, The Tropics, 423-425. Martin, Through Five Republics of South America, 187-198 Carpenter, South America, Social, Industrial and Political, 561 and 567.</p>
<p>(d) Plant and animal life. The jungle. Extent. Plant life. General characteristics. Kinds of trees. Important forest products. Animal life. Dominance of arboreal forms. Insect pests.</p>	<p>Typical sights and sounds for different hours of the day. A view of an Amazonian forest from above.</p>	<p>Van Dyke, H. W., Thru South America, 141-144. Herbertson, Central and South America, 97-99. Willis, Agriculture in the Tropics (Cambridge, 1909). Ballou, Equatorial America, 112-120. Fontain, The Great Mountains and Forests of Brazil, 123-146. Bruce, Brazil and the Brazilians, 170-182. Enock, Republics of Central and South America, 108-115. Carpenter, South America, Social, Industrial and Political, 567-568.</p>
<p>(e) People. Natives and foreigners. Modes of life. Food. Homes. Clothing.</p>	<p>A day's trip with a rubber gatherer.</p>	<p>Ballou, Equatorial America, 108-110. Herbertson, Central and South America, 104-108. Herbertson, Man and His Work, 41, 42. Carpenter, South America, 568-569. Bruce, G. J., Brazil and the Brazilians, 78-89.</p>

TOPICS.	EXERCISES.	REFERENCES.
		Enock, Republics of South and Central America, 117-121. Wright, The New Brazil. Ballou, Footprints of Travel, 439-443. Smith, Commerce and Industry, 328, and Chapt. XX, Brazil.
Occupations. Rubber industry. Farm and grazing.		For map of rubber industry see: Smith, Commerce and Industry, p. 242. Carpenter, South America, 583-598. Bruce, Brazil and the Brazilians, 158-169.
Cities. Para (Belem). Manaos. Transportation and Commerce.		Ballou, Equatorial America, 94-108. Bruce, Brazil and the Brazilians, 232-235; 7-8. Van Dyke, H. W., Through South America, 144-153. Martin, Thru the Republics of S. Amer., 198-200. Carpenter, S. America, 575-582. Nat. Geog. Mag., 1906, 432-448.
The rivers the only highways.		Carpenter, S. America, 569-570.
(f) Health conditions. The basin as the home for white man.		Herbertson, Central and South America, 102-103. Bulig, North Brazil, 11-20. Nat. Geog. Mag., 1906, p. 448.
2. The Congo. (a) Location and Extent. (b) Surface and drainage. Broken plains and plateau.	On a blank map of Africa, prepare a chart showing: (a) the boundaries of the Equatorial Rain Belt. (b) the rainfall, distribution of.	Chamberlain, Africa, a Reader, 93-114 Carpenter's Reader, Africa, 191-199; 212-252. Encyclopedia Britannica, Congo.

TOPICS.	EXERCISES.	REFERENCES.
<p>(c) Climate. Rainfall. Temperature. Humidity.</p> <p>(d) Plant and animal life.</p>	<p>(c) vegetation. (d) density of population. (e) occupations, distribution of.</p> <p>Ref., Herbertson's Handbook, Vol. 2, 280, 284, 292, 293, and atlases.</p>	<p>Stanley, H. M., Through the Dark Continent. Herbertson's Handbook, Vol. 2, 385-387. Enock, The Tropics, 105-107; 109-112. Reynolds, Africa and Australia, 58-60. DuChaillet, P. B., The Pygmies of Central Africa, Amer. Geog. Soc. Bull. Vol. II, 99-112. Herbertson, Africa, 136-151; 155-157.</p>
<p>(e) People. Natives and foreigners. Natives. Normal Negroes. Pygmies. Modes of life. Food. Clothing. Shelter. Occupations. Villages. Numerous. Along streams mainly. Transportation and commerce. Rivers and forest paths.</p>	<p>Prepare an economic map showing the important commercial products of this belt in Africa and compare with those of the corresponding belt in South America.</p>	<p>Herbertson's Handbook, Vol. 2, 279-282 (rainfall and climate); 286 (vegetation); 287 (animals); 294-295 (culture). Herbertson, Man and His Work, 38-41. Herbertson, Africa, 152-155; 158-159. Enock, The Tropics, 107-109; 110-111. Starr, Strange Peoples, 138-142. Nat. Geog. Mag., 1910, 969-971. Powell-Cotton, P. H. G., A Journey Through the Eastern Portion of the Congo State, Geog. Jour., Oct., 1907. Smith, Commerce and Industry, Chapt. XXXVIII (Tropic Africa).</p>
<p>(f) Health conditions. Congo as home for white man.</p>		

TOPICS.	EXERCISES.	REFERENCES.
<p><i>(Teachers' Note—In teaching Java, bring out modifications due to insularity and altitude)</i></p> <p>8. Java and adjacent islands.</p> <p>(a) Location and extent.</p> <p>(b) Surface.</p> <p>(c) Mountains and plains</p> <p>Rainfall.</p> <p>Temperature.</p> <p>Humidity.</p> <p>Modifications due to insularity, altitude, and monsoon winds</p> <p>(d) Plant life.</p> <p>(e) People.</p> <p>Natives and foreign-ers.</p> <p>Occupations.</p> <p>Modes of life.</p> <p>Food.</p> <p>Shelter.</p> <p>Clothing.</p>	<p>Chart rainfall, winds and density of population. Ref., Atlases.</p> <p>Why is Java so much more densely populated than adjacent islands?</p>	<p>Herbertson's Handbook, Vol. 2, 174-177.</p> <p>Tarr & McMurry, 397.</p> <p>Encyclopedia Britannica, Java.</p> <p>Mill, International Geography, 561-563.</p> <p>Enock, The Tropics, 288-297.</p> <p>Herbertson, Australia and Oceania, 2-19.</p> <p>Seidmore, Java the Garden of the East.</p> <p>De Wet, Java, Facts and Fancies.</p> <p>"A Traveler's Notes on Java," Nat. Geog. Mag. XXI, 1910, 91-111.</p>
<p>Summary of Equatorial Rain Belt.</p> <p>Climate and vegetation.</p> <p>Crops and products.</p> <p>Ease of living.</p> <p>Conditions of natives.</p> <p>Possibilities of region for white man.</p> <p>Food, clothing and shelter best adapted to the climate.</p>		<p>Ward, Climate, 183-205; 220-271.</p> <p>Herbertson, Man and His Work, 37-42.</p> <p>S. B. T. Modern, 102-105.</p> <p>Tarr & McMurry, 227-228.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>B. Trade Winds Belts. Regions affected. Character of trade winds. Steady. Drying. Yield moisture if forced to ascend. Shifting of trade winds belts. Seasonal rainfall. (a) On equatorial side, one rainy season decreasing in length with increase in latitude.</p>	<p>Make a map of the world showing the trade winds belts in January and July and the directions of the winds. Copy from a rainfall map of the world, the rainfall of the area included in the trades winds belts as shown on each of the maps just made. Note the decrease of rainfall poleward. Try to explain any exceptions. From map of seasonal rainfall and from maps just made determine rainy season for each important land area on your maps.</p>	<p>Any good atlas showing trade winds and rainfall of world in January and July. Tarr & McMurry, 2d book, 206-214 with maps. S. B. T. Elements, 118-22. S. B. T. Modern, 106.</p>
<p>Subdivisions of trade winds belts. 1. Has one rainy season in mid-summer (grasslands or savannas.) 2. Always dry (desert.)</p>		<p>Dryer, 228-229.</p>
<p>1. Grasslands. Reason for grass. Gradation. (a) Into forest toward equator. (b) Into desert toward poles.</p>		<p>Dryer, 236-237. Newbiggin, H., Modern Geography, 115-122. Tarr & McMurry, 228-229. Brigham & McFarlane, Book 2, 373. Dodge, 68-69.</p>
<p>Distribution of the tropical grasslands of the earth:</p>	<p>Make a map showing distribution of tropical grasslands of</p>	

TOPICS.	EXERCISES.	REFERENCES.
<p>Examples of Grasslands: (a) The Orinoco region (llanos.) Location and distribution. Rainfall conditions. Temperature. Kind and nature of vegetation. Animal life. How related to vegetation. Native peoples. Occupations. Food. Clothing. Shelter. Mental and physical characteristics Stage in civilization. Possibilities of development. Health conditions for whites. Agriculture. Grazing.</p>		<p>Tarr & McMurry, 238. Tarr & McMurry, 248. Bowman, South America, Chapter XVI, 314-336.</p>
<p>(b) The Sudan. Location. Extent. Rainfall conditions. Temperature. Kind and nature of native vegetation. Native animal life.</p>	<p>Make a map of the African Sudan showing: rainfall, vegetation, population, industries and products (so far as can be shown), using all available references and atlases.</p>	<p>Map of Savannas of Africa in T. & M. 374, description, 374. Heawood, Geography of Africa, 86-106. Herbertson's Handbook, Vol. 2, 380-384. T. & M., 387-388. Dryer, 410.</p>
<p>Native peoples. Occupation. Food. Clothing. Shelter.</p>		<p>Carpenter's Geography Readers—Africa, 162-190.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Crops and products. Domestic animals. Stage in civilization. Possibilities for future. Health conditions, etc.</p>		
<p>Summary of the Grasslands. Rainfall and vegetation. Crops and produce. Living conditions. State of natives. Influence of geographic factors upon food, clothing and shelter. Possibilities of the region as seat of white settlement.</p>		<p>S. B. T. Modern, 107-108. Life in the Grasslands—Herbertson, A. J. Jour. Sch. Geog. Vol. 3, 281-287 (deals mainly with temperate steppes).</p>
<p>2. Deserts. Nature and amount of rainfall. Nature of surface. Any kind of topography. May be sandy or rocky. Oases. Nature. Causes. Gradation equatorward into grasslands and poleward into sub-tropical regions Distribution of hot deserts of the earth.</p>		<p>Dryer, 239-240. T. & M., 229-230.</p>
<p>Detailed study of desert types. (a) Sahara. Location. Extent. Rainfall conditions. Temperature. Great heat at mid-day.</p>	<p>Make a map of Northern Africa showing: 1. The area occupied by the Sahara Desert. 2. Rainfall. 3. Density of population.</p>	<p>T. & M., 377-378. Heawood, Geography of Africa, 76-85. Chamberlain, Africa, Chapter IX, 63-71.</p>

TOPICS.	EXERCISES.	REFERENCES.
Great daily range. Moderate seasonal range.	How many times the size of Illinois is the arid part of the Sahara?	
Native vegetation. Adaption to environment. Native animal life. People. Occupations. Crops and products. Domestic animals. Camel, fat-tailed sheep. Adaptions to environment. Food. Clothing. Shelter. Adaption to desert environment Travel and transport. Desert roads. Means of travel. Caravans. Stage in civilization. Nomadism. Nature. Cause. Character of people.		Colston, B. A., Life in Egyptian Deserts, Jour. Amer. Geog. Soc. XI, 304-384.
Oasis Life. Nature of occupation. Crops, etc. Shelter and dwellings. Character of people as compared with the nomads.		Kearney, The City of Ant Men, Nat. Geog. Mag. XXII, 1911, 366-382.

TOPICS.	EXERCISES.	REFERENCES
<p>(c) Northern Chile and Western Peru. Location and area of desert region. Cause of aridity. Rainfall. Amount. Seasonal variation. Vegetation. The Nitrates. Relation to aridity. The nitrate industry. Irrigation. Population and development.</p>	<p>On map of South America show desert of Northern Chile and Southern Peru.</p>	<p>Howman, South America, Chapter VI, 84-127. Herbertson, Central and South America, 207-211.</p>
<p>Summary of deserts. Rainfall. Scantiness. Variability. Temperature. Great range. Vegetation. Sparsity. Special adaptations. Desert industries. Mining. Grazing. Transportation. Caravans. Influence of desert upon its people. Hard conditions of life. Nomadism. Effect on life and ideals. Food. Shelter. Clothing.</p>		<p>Herbertson, Man and His Work, Chapt. IV, 82-86. Platt, M. J., Climatic Control in the Desert, Jour. Sch. Geog. IV, 255-264, 281-287. Dodge, R. E., Life Amid Desert Conditions, Bull. Amer. Geog. Soc. XXXIV, 412-423.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Monsoon Climates. The Asiatic monsoon. Cause. Regions affected. India. Southeastern China. East Indies.</p>	<p>On map of the world show the principal monsoon regions mentioned or charted in the texts.</p>	<p>S. B. T. Modern, 171-173. Tarr & McMurry, 354, 217, 218. Brigham & McFarlane, 258.</p>
<p>1. India. Situation. Surface. Himalaya on north. Deccan and Ghats. Indo-Gangetic lowland. Climate. Monsoon control. Summer monsoon. The beginning. Wind and rain. Humidity. Autumn calm. Winter monsoon. Wind direction and velocity. Temperature. Distribution of rainfall. Weather. Spring heat. Cause. Effects on the people.</p>	<p>Bring to class a statement of the climate of India as it would be without the monsoons, basing your estimate on the latitude and position with respect to the great wind belts of the earth.</p>	<p>Chamberlain, Asia, 67-106. Dryer, 493-497. Mill, International Geography, 469-501. Huntington, Asia, 304-344. S. B. T., Elements, 171-173. Herbertson, Handbook of Geography, Vol. 2, 83-111. Brigham & McFarlane, Essentials of Geography, 351-363. Tarr & McMurry, 354-360.</p>
<p>Vegetation. Types of vegetation controlled by climate. Himalayan flanks. Indo-Gangetic plain. Ghats.</p>		<p>Dryer, 281.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Life of the people. Himalayan flanks. Gangetic Plain. Ghats and plateau of Deccan. Dependence on monsoon rains. Results of failure of rains.</p>	<p>Make a population map of the region where there are monsoons. Are all these regions densely populated? If not, what reasons can you suggest for the exceptions? What other regions of the world have populations comparable with those of the monsoon regions? Longman's Atlas, p. 8.</p>	
<p>D. Prevailing Westerlies. Location and general climatic conditions. 1. Sub-tropical section. A. Windward coast type, (Mediterranean climate.) Winds. Seasons. Rainfall; temperature. Type regions. (a) Southern California. Situation. Surface. Climatic conditions. Vegetation. Natural vegetation. Lowland. Mountains. Agriculture products as controlled by climatic conditions. Irrigation and dry farming.</p>	<p>On a map of the world pick out all the regions which should have a climate like that of Southern California.</p>	<p>S. B. T., Elements, 185-188. Carpenter, F. A., Climate and Weather of San Diego, Cal. Dryer, 412-418. Herbertson, Descriptive Geographies, North America, 196-200.</p>
<p>(b) Mediterranean region. Compared with California as to points suggested above.</p>		<p>Dryer, 218; 459-472.</p>

TOPICS.	EXERCISES.	REFERENCES.
(c) Central Chile. Study for comparison with California and Mediterranean region.		Bowman, South America, 73-83.
B. Lea Coast—Sub-tropical (Florida type.) Contrasts with west coasts in: Temperature. Rainfall. Vegetation. Agriculture. Products. Sub-tropical fruit. Early vegetables. Winter resorts.	On an outline map of the world, mark all the regions which have a sea coast sub-tropical climate.	Dryer, 356-390. S. B. T., Elements, 188-190. Herbertson, Descriptive Geographies, North America, 110-117.
2. Windward Coasts in high latitudes. General climatic conditions. (A) Northwestern Europe. Winds. Temperature. Mildness; low range. Rainfall. Amount. Seasonal distribution. Vegetation. Forests. Grasslands.	On an outline map of the world, show all places having a climate like that of northwestern United States.	S. B. T., Elements, 191-194. Dryer, 425-449, 507. Mill, International Geography, 188-215. Lyde, Continent of Europe, 51-60; 105-123 (Scandinavia); 221-249 (British Isles).
Occupation of the people as affected by climate and vegetation.		

TOPICS.	EXERCISES.	REFERENCES.
(B) Northwestern North America. (Outline as for northwestern Europe.)		Dryer, 412-418. Dryer, 505-506.
3. Continental interiors. General climatic controls. Cyclone storms. Interior location. Climatic conditions. Temperature; range. Rainfall. Amount. Seasonal distribution.		S. B. T., Elements, 195-205.
(A) Central United States. Natural vegetation. Forests. Grasslands. Agriculture. Living conditions. Buildings. Clothing. Food. Compare with Florida and with Amazon region.		Dryer, 391-399; 400-411.
(B) Central Russia. Natural vegetation. Forests. Grasslands (grassy steppes.) Dry steppes. Living conditions. In the forests. Lumbering and hunting. In the grasslands. Agriculture. In the dry steppes. Nomadic life.		Dryer, 451-458. Herbertson, Handbook, Vol. 1, 460-480. Herbertson, Man and His Work, 15-31.

TOPICS.	EXERCISES.	REFERENCES.
<p>4. Lea Coasts in temperate latitudes. Climatic controls. Cyclone storms. Nearness to water. Climatic conditions. (A) Maine. Compare with Northwestern United States and with Central United States as to: Temperature. Rainfall. Vegetation. Life of the people.</p>		<p>S. B. T. Elements, 205-210. Dryer, 508-511.</p>
<p>Summary of the Westerlies. The sea and great extent of latitude as controlling factors: On rainfall. On temperature. Seasonal contrasts and their effects. Vegetation. Dry steppe grading through prairies, deciduous forests, to coniferous for- ests. High development of civilization.</p>		
<p>E. Polar cap. Area. Climatic conditions. Plant and animal life. Life of man in the polar regions.</p>		<p>S. B. T. Elements, 214-225. Dryer, 511-515. Herbertson, Man and His Work, 7-14. Herbertson, Descriptive Geographies, North America. 18-29.</p>

TOPICS.	REFERENCES.	EXERCISES.
<p>General summary of climate.</p> <p>Conditions that favor high degree of culture:</p> <p>Sufficient food, not too easily obtained.</p> <p>Seasonal contrasts demanding forethought.</p> <p>Possibility of a surplus of time and means for cultural pursuits.</p> <p>Comparative study of climatic zones with regard to the points mentioned above.</p>		

II. Topographical Regions of the Earth, Their Relation to Man.

TOPICS.	EXERCISES.	REFERENCES.
<p>Surface types: Their general distribution.</p> <p>Plains.</p> <p> Alluvial.</p> <p> Glacial.</p> <p> Others.</p> <p>Plateaus.</p> <p>Mountains.</p>	<p>On an outline map of the world, show by color and shading the distribution of the extensive plains, plateaus and mountains. Indicate names of countries including them.</p> <p>Make a list of the countries which are primarily plain, plateau, mountain.</p>	
<p>Plains.</p> <p>A detailed study of the relation of man to each type.</p> <p>General influences of plains.</p> <p>Soils—agriculture.</p> <p>Level surface.</p> <p>Agriculture.</p> <p>Transportation.</p> <p>Ease of; low cost.</p> <p>Distribution of people.</p>	<p>On a railroad map of the U. S., compare the number of railroads in the central plains with the number in the region from the Rocky Mountains to the west.</p>	<p>S. B. T., Elements of Geog., 489-490.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Type. Alluvial plains. The Nile Valley. The river. length. course. source. tributaries. floods. time. causes. silt deposits. The valley. upper. lower. The people. history. ruins. monuments. British rule. Agriculture. Irrigation, in past—why necessary? Irrigation—today. Assuan dam. Climate and crops. Kinds of crops. Number of crops. Transportation. Cities. Alexandria. Cairo.</p>	<p>On a map of Africa, mark off Egypt and shade the part which is really occupied by the people. Mark location of rapids, Assuan dam, the cities, and pyramids. Bring out in class the contrast in development of the alluvial plains and the country beyond.</p>	<p>Chamberlain, The Continents and Their People, Africa, 176-183. Reynolds, Africa and Asia, 10-12. Herbertson, Descriptive Geog. from Original Sources, Africa, 31-32, 39-40, 47-48, 51-56. Penfield, Present Day Egypt, Ch. 1, 2, 5. Hichens, Egypt and Its Monuments. Peel, The Bending of the Nile. Knight, Overseas Britain, 160-163. Reclus, Earth and Its Inhabitants, Africa, Vol. 1, 31-78.</p>
<p>Mississippi Valley.</p>	<p>On a map of the U. S. giving drain-</p>	<p>Herbertson, N. America, 139-148.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Contrast lower valley (below St. Louis) with upper.</p> <p>The lower valley.</p> <p>floodplains.</p> <p>bluffs.</p> <p>natural levees.</p> <p>position of river.</p> <p>tributaries.</p> <p>swamps.</p> <p>floods—protection from delta.</p> <p>natural vegetation.</p> <p>industries.</p> <p>lumbering.</p> <p>agriculture.</p> <p>transportation.</p> <p>difficulties.</p> <p>improvements.</p> <p>commerce.</p> <p>position of cities on bluffs next to the river.</p> <p>near mouth of tributary.</p> <p>near mouth of river.</p> <p>Compare with Nile Valley.</p> <p>(principal difference comes from climate and race of people.)</p>	<p>See St. Louis daily weather map for stages for Miss. River flood in spring months.</p> <p>Make list of cities in each position.</p>	<p>Mill: International Geog., 743-744, 748-750.</p> <p>Fultz, Outdoor Studies in Geog., 43-96.</p> <p>Brigham & McFarlane, Essentials of Geography, 116-118, 148-149.</p> <p>Brigham & McFarlane, Essentials of Geog., 126-127.</p> <p>Hotchkiss, Representative Cities of U. S., 57-71.</p>
<p>Holland—a delta plain.</p> <p>Situation and size.</p> <p>Character of surface, low, flat.</p> <p>Origin of surface.</p> <p>System of dykes and canals.</p> <p>Farms on low lands.</p> <p>Homes on dykes.</p> <p>Reclamation of land.</p>	<p>Make a list of other large delta plains of the world. Be able to locate them and tell some definite way in which each affects the lives of the people who live in it.</p>	<p>Cook, Switzerland and the Rhine, 434-487.</p> <p>Mockkinder, The Rhine, 324-363.</p> <p>The Rhine from Its Source to the Sea, (translated by Bartley), Vol. II, 292-307.</p> <p>Hough, Dutch Life in Town and Country.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>People. Industries. agriculture. farming. dairying. flower culture. Transportation. in the country. to foreign countries. Commerce. with other countries. through the country via the Rhine. Cities. Amsterdam. Rotterdam. The Hague.</p>		<p>Reynolds, Europe, 80-85. Stoddards' Lectures, VII, 175-224. Chamberlain, Continents and Their People, Europe, 67-82. Herbertson, Europe, 211-212.</p>
<p>Glacial plains. N. Central N. America. Surface—advantages for agriculture. transportation. Soils—advantages for agriculture (glacial soils compared to those in driftless areas.) Crops—climatic influences. Drainages. Swamps—artificial drainage. Lakes and old lake beds. Lake Agassiz—Red River valley. surface and soils. products. Great Lakes. Transportation routes for minerals. grain. Rivers. falls and rapids. manufacture.</p>	<p>Effects of glaciers upon: Surface. Drainage. Soils. Make a list of the chief materials carried on the Great Lakes, their sources, and destinations, showing the important ports of the lakes. Note recent increase in importance of water power through its being turned into electricity. Make a list of great cities of U. S. within the glacial area, made important by falls. How many such are outside the area.</p>	

TOPICS.	EXERCISES.	REFERENCES.
<p>North German plain. Compare with N. Central N. America as to: origin. surface. drainage. soils. climate. industries. products. transportation facilities. river. canals. railroad. Improvements made by German people in— soils. transportation.</p>		<p>Partsch, Central Europe, 89-111, 112-123; parts of Ch. X. Dawson, German Life in Town and Country. Herbertson, Europe, 59-64, 66. Lyde, Continent of Europe, 311-331.</p>
<p>Plateaus. General influences. Altitudes—affecting temperature. Relation to mountains, affecting rainfall. Surface—affecting transportation. on plateau. to plateau.</p>	<p>Lay stress on the differences from plains.</p>	<p>S. B. & T., Elements of Geog., 485-486.</p>
<p>Types. Spain. Situation and area. Surface and drainage. deep valleys along principal rivers. mountain rim. slope to ocean. Climate (influenced by height of mountain rim.)</p>		

TOPICS.	EXERCISES.	REFERENCES. ¶
<p>Industries. agriculture (deep valleys make irrigation impossible.) crops. grazing. mining. Situation of cities on plateaus. ports. Transportation. river. railroad.</p>	<p>Compare agriculture on the plateaus with that in the lowlands along the coasts of the peninsula. List the cities in type locations. Bring out the difficulty of access from the surrounding lowlands, steep grade for roads and railroads, and streams not navigable.</p>	<p>Herbertson, Europe, 259-282. Chamberlain, Europe, 155-160. Lyde, Continent of Europe, 160-189.</p>
<p>Brazilian Plateau. Location. Surface and altitude. Climate. influence of latitude. influence of altitude. Natural vegetation. Industries. Agriculture—coffee. Sao Paulo. Santos. Rio de Janeiro. Grazing. *Mining. Manufacture. meat packing. woolen manufactures. lumber manufacture. Commerce.</p>	<p>Locate the coffee district. * a worn-down mountain region, uplifted like this one, is likely to have minerals. Locate railroads on a map of Brazil.</p>	<p>Hale, The South Americans, 182-188. Pierre, Denis, Brazil, 139-144. Beeby, South Brazil, 9-12, 111-113. Herbertson, S. Amer., 112-124. Martin, Through Five Republics of South America, Part II. Van Dyke, H. W., Through South America, Ch. II. Bowman, S. America, 37-45. Vincent, Around and About South America, Ch. 25, 28, 30.</p>
<p>Andean Plateau. Countries—Peru, Bolivia. Situation. latitude.</p>	<p>Compare with Brazilian plateau.</p>	<p>Vivian, Peru, p. 3, Ch. IV. Martin, Peru of the XXth Century, 4-6. Adams, A. A., The Plateau Peoples of S. America Herbertson, S. America, 181-196.</p>

IUPICUS.

IUPICUS.	UNDEVELOPED.	REFERENCES.
<p>Size. Altitude. Surface. Climate. Resources. Industries. agriculture—crops. grazing. mining. People. early people and history. present population. Transportation. in plateau. connection with world. Cities—their location. La Paz. Cuzco. Lima and Callao.</p>	<p>Show influence of altitude on people, modes of living, religion, etc. Special topics: 1. The Incas and their remains. 2. Cuzco. On a map show railroad and water connection with coast and Brazil.</p>	<p>Van Dyke, Through South America, Ch. VIII. Vincent, Around and About S. America, Ch. 8-11. Bowman, S. Amer., 128-150.</p>
<p>Mountains. General influence of mountains on people. Steep slopes. Thin soils. Difficult transportation. Water power. Irregular surface. Separation of people into groups. Separation of people from world.</p>		<p>S. B. T., Elements of Geography, 468-485.</p>
<p>Switzerland. Situation. Surface. Drainage. rivers. lakes. glaciers.</p>		<p>Herbertson, Europe, 96-111. Lyde, Continent of Europe, 375-401.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Climate. Distribution of vegetation and character of vegetation. People. Industries. grazing—mountain pastures. farming in valleys. manufacture. hand work. water power. tourist hotels. Characteristics. industrious. nature loving. freedom loving. history. form of government. Transportation. roads. passes. railroads. bridges and tunnels. lakes. Commerce. importation—raw material. exports—manufactured goods. Location of cities.</p>		
<p>Norway—compared to Switzerland in— Location. Surface. Climate. Vegetation. Resources. Industries.</p>	<p>Studies may be made if time permits of other mountain regions, as Wales, Scotland, Kentucky, and Tennessee Mountains, etc., to see effect of isolation. Notice peoples quite distinct in race, characteristics, customs in life from those near by.</p>	<p>Ballou, Due North, 57-58, 81-85, 86-91, 116-117. Wilson, Norway at Home, 105-111; 130-143; 204-225. Monroe, Viking Land, Ch. I, XI, XII, XV, XVII. Herbertson, Europe, 4-14, 17-20. Lyde, Continent of Europe, 106-119.</p>

TOPICS.	EXERCISES.	REFERENCES.
Cities—situation.	Study Colorado Rockies, Pennsylvania, and Austria to show influence of minerals on the development of mountain regions, location of cities, of people, and of main factories.	
III. Coastlines and Their Relation to Man.		
TOPICS.	EXERCISES.	REFERENCES.
<p>The importance of coast lines to countries. Access to sea products. Impulse toward sea life. Access by water to other countries. (Examples in early history—Phoenicians, Northmen.)</p> <p>The necessity for harbors along coasts. Characteristics of good harbors. Types of coasts. Irregular—sinking, glaciation. estuaries. fiords.</p>		<p>U. S. Geological Survey, Ann. Rept., Vol. 13, part 2, 100-146. Shaler, Sea and Land, 153-201. Russell, North America, 1-23. Robinson, Commercial Geog., 24-28. George, H. B., Relation of Geography and History, 13-14. Smith, J. R., Industrial and Commercial Geog., 892-893. Herbertson, Man and His Work, 44-48.</p>
<p>Countries illustrating types of coasts and their development. Irregular coasts. England (estuary coast.) Position and extent. Surface. Low, rolling plains in east and center. Pennine mountains. Narrow lowlands in west. Dissected high plains to south. (Downs, Moors.)</p>		<p>Chamberlain, Europe, 9-27. George, H. B., Relation of Geography and History, 132-150.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>River systems. Thames. Mersey. Severn. Humber. Tyne. Coasts—character of river mouths. Climate—parts open the year round. Resources. Agricultural area small. Minerals—their location. coal. iron. Development of resources. agriculture. mining. manufacture. Relation of development to good harbors. Development of sea ports. Development of sea control— naval power and commercial supremacy. Land transportation— connection with coasts by canals and railroads.</p>		<p>Carpenter, Europe, 55-66. Black, Geog. of the British Isles, 23-29. Carpenter, Europe, 66-83. Chamberlain, Europe, 28-35.</p> <p>George, Relation of Geog. and Hist., 76-94.</p>
<p>La Plata Estuary. Character of estuary. size. depths. shores. The hinterland. Uruguay. surface.</p>		<p>Martin, Through Five Republics of S. America, Part I. Van Dyke, Through S. America, Ch. III. Vincent, Around and About S. Amer., Ch. 17, 18.</p>

TOPICS.	REFERENCES.	
<p>industries and products. (a grazing country.) Argentina. Surface and soils. Climate. Agriculture—its products. the ranch. wheat growing. corn. alfalfa. cattle raising. Ports. Montevideo. situation and size. harbor. interior connections. shipments. Buenos Aires. situation and size. harbor. connection with interior. railroads. river. shipments. influence of refrigerator boats. Rosario. situation and size. grain shipment. Connection with outside world. Countries to which exports are sent. Countries from which imports come. (Basis of trade—difference in products) The estuary a connecting link between this region and other countries.</p>		<p>Bryce, South America, 315-365.</p>

TOPICS.	EXERCISES.	REFERENCES.
<p>Norway—fiord coast. Position and extent—note latitude. Surface—mountains. Coasts—fiords. Climate—open parts (influence of Gulf Stream drift and westerly winds.) Resources. timber. minerals. poor in quality. small amount. scattered. little soil. Industries. lumbering. mining. dairying. fishing. commerce (people thrown upon sea for their living.) Commercial ports. Christiana. Bergen. Distribution of people. Land transportation.</p>	<p>From maps of continents, make a list of the fiord coasts of the world. Find out to what extent these countries have developed coastal industries and make a list of cities in each fiord coast which have grown because of the deep indentations in the coast. Do such coasts tend to develop large cities? Compare estuaries and fiords as to their value for harbors. Compare Scotland, Alaska and Southern Chile with this region.</p>	<p>Lyde, Continent of Europe, 108-119.</p>
<p>Regular coasts. Gulf and Atlantic Coastal Plain. Characteristics of the coast. even coast line—few harbors. shallow water. sand bars and lagoons. Origin of shore line and coastal plain.</p>		<p>Russell, N. America, 55-56. Herbertson, N. America, 107-117. Chamberlain, N. America, 62-72. Mill, International Geog., 718-721, 746-748. Brigham & McFarlane, Essentials of Geog., 97-112, 120-128, 127.</p>

TOPICS.	EXERCISES.	REFERENCES.
Coastal plain. surface and soils. River—slope and mouth. Industries and products. Agriculture. rice. cotton. sugar cane. vegetables, etc. Fishing. oysters. sponges. Manufacture. tar. turpentine. Sea ports (links between the land and sea.) river mouth ports. delta cities.		

IV. Geography of the United States. (1-4 year)

A detailed study of the United States relating new material to that already considered. It is to be kept in mind that throughout the country, climate, surface, character of coasts have their influence upon the people and their distribution, through their industries.

BOOK LIST.

AUTHOR.	TITLE.	PUBLISHER.
Mill.....	International Geography.....	Appleton's.
Enock, C. R.....	The Tropics.....	Scribner's.
Ward, R. de C.....	Climate.....	John Murray.
Huntington, E.....	Asia.....	Rand, McNally.
Lyde, L. W.....	Continent of Europe.....	Macmillan.
Dryer, C. R.....	High School Geography.....	Amer. Book Co.
Newbigin, M.....	Modern Geography.....	Holt.
Smith.....	Commerce and Industry.....	Holt.
Robinson.....	Commercial Geography.....	Rand, McNally.
Herbertson.....	Handbook of Geography, 2 Vols.....	Nelson.
Tarr & McMurry...	New Geographies, Second Book.....	Macmillan.
Salisbury, Barrows & Tower.....	Elements of Geography.....	Holt.
Salisbury, Barrows & Tower.....	Modern Geography.....	Holt.
Bowman, I.....	South America, A Geography Reader	Rand, McNally.
Chamberlain.....	The Continents and their People (for each of the continents).....	Macmillan.
Longman.....	New School Atlas.....	Longman's.
Herbertson.....	Geography Readers from Original Sources (for each of the continents)	Oxford U. Press.
Herbertson.....	Man and His Work.....	Oxford U. Press.
Russell, I. C.....	North America.....	Appleton's.

MANUAL ARTS SECTION

Morning Session.

Since last year's chairman and secretary had moved to another field, Professor E. J. Lake of the University of Illinois presided, and Mr. P. E. Erickson of Herrin was appointed secretary *pro tem*.

Professor Lake opened the session by suggesting that committees be appointed to take up problems vital to the Section. Professor Lake further emphasized the value of discussion, and pointed to the fact that this session was rather to be an "experience" meeting than an entertainment.

Mr. A. C. Bloodgood, chairman of the committee on Standardizing Grading Methods, gave his report. Over one hundred question blanks had been sent out, and fifty replies had been received and tabulated. The report follows:

The writer, who is chairman of the committee, thought, when appointed to this work, that the task was well-nigh a hopeless one. If the member of the conference who moved the appointment of the committee or the chairman who appointed the committee expected a thoroughly worked out plan for grading work they and all of you who listen to this report will agree that, so far as this committee is concerned, the task was certainly far beyond our ability.

The most this committee can hope to do is to make a few suggestions which we hope may be of some little interest to you.

A system or plan of grading may be compared in one respect to the operating of any industrial organization. The most elaborate system depends in the last analysis upon the "human element." Surely when we come to grading our work the "human element" represented by the teacher is the biggest element in the process.

The papers in your hands give a list of qualities which are, we believe, generally considered in grading manual work.

Values given, by fifty instructors, to essential qualities considered in grading manual work.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Accuracy	30	20	20	35	25	30	40	25	40	20	25	20	20	15	25	40	20	25	40	20	16	19	15	70	25	25	20	15
Rapidity	10	10	20	35	20	20	15		20	10	05	10	10	10	15	10	05	30	10	15	01	05	08	10	15	10	05	
Concentration or Application	05	15	10	05	10		10	40	15	20	20	20	20	20	15	10	25	25	05	15	15		20	05	15	20	20	25
Neatness	30	15	10	15	10	20	25	10	10	10	15	10	10	10	10	10	10	10	05	15	15		20	10	15	10	15	15
Ability to Plan or Design	20	15	10	02	15	10	05	05	20	10	20	10	10	15	25	15	10	25	15	20	14		10	07	15	15	10	20
Improvement	05	15	20	03	15	20	05	20	10	10	10	10	10	10	00	10	15	07	05	10	13		20		10	10	15	15
General Conduct	10	10	05	05					10	15	10	20	20	10		10	03			10	12		10		10	05	10	05

	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	Average				
Accuracy	25	20	30	30	50	70	20	25	10	10	50	20	10	10	15	05	10	20	25	50	15	15	26.7				
Rapidity	05	10	10	15	25	05	10	10	05	20	10	05	05	05	10			10	20	02	05	15	11.3				
Concentration or Application	25	15	30	10	10	03	35	10	30	30	10	20	50	35	40	15	75	15	25	30	50	40	20.5				
Neatness	10	10	10	15	05	10	10	15	10	10	05	10	10	05	10	05	10	15	10	05	25	10	11.7				
Ability to Plan or Design	25	05	10	05	10	05	10	20	05	25	05	25	05	10	10	10	05	10	10	03	05	05	11.9				

ards giving this list were sent to manual training supervisors with the idea that they give each quality the value it should have to make up the total of 100%.

With very few exceptions all accepted the analysis or division into seven or eight qualities. A few of the writers left out or dropped the "General Conduct" head and said that came under " deportment " and should not be entered in this grading because conduct should *always* be satisfactory.

A few suggested other divisions or qualities which will be taken up later in the report.

The values set on the several qualities are interesting, as are the suggestions and remarks that were written on the cards. The appraised values very clearly show what points are emphasized by the several teachers, e. g., manual school instructors all give accuracy a high value.

Accuracy is evidently considered necessary by all teachers and the majority of the cards gave that quality the highest value of any on the list.

Supposing all manual arts teachers agree that accuracy is necessary in the production of any good piece of work, who will set the standard of accuracy? That "human element" will enter into the grading and the teachers' committee will decide whether accuracy allows joints of cabinet making or pattern work laid out with a blunt BB pencil rubbed five or six times over the surface perhaps with a liberal application of saliva, or requires the use of a knife and gage.

Our committee believes that the standard for accuracy in high school manual work should be near that required of skilled artisans. We believe the tools used in the wood shop or machine shop are implements of precision and if it is worth while for a boy of high school age to spend his time learning to use these tools, he should be required to do his work as accurately as he reasonably expected of one of his experience and judgment. We believe little enough of mechanics. No danger of too much training.

I was sending out the cards again I should qualify the heading "rapidity;" I should explain it to mean the ability to turn out work expeditiously. If there is any one quality in which most manual training pupils (great many instructors) fail, it is turning off work.

The time element should enter into our work. Boys should be taught to "turn out." This does not mean that they should hurry so that poor work is turned out that they should learn to make each move count. One instructor replied to the questionnaire grades on a 200 per cent basis. He grades the first without considering the time spent on it, then if the work has gone on within the time limit that grade stands; if more time has been spent the grade is proportionally reduced. So if a piece of work deserves a 100 but the pupil has spent a third more time than is allowed he gets 33 1/3 or 60%.

Concentration or application receives the second highest valuation. The majority believes it should have the first. I care more how a pupil works than what he does or even what he learns.

Our pupils would just learn to work,—to take up a piece of work and to it,—keep steadily at it until it is finished, they would be well-qualified for good permanent jobs or positions when through school. The ability to work in this way is one of the most valuable assets any man can have when he wants a job or has the ability to fit himself for a \$50,000 position. Learning how to work in that way is one of the essential qualities a man must have if he ever gets one of the big jobs the world wants done.

We place too much emphasis on what exercise or what kind of work. Much upon making work attractive. The world is full of hard tasks. There is much drudgery. We should help pupils to see that these jobs must be done. Boys don't expect to work as men do. I set a man at some kind of work. Perhaps a hundred or a thousand pieces of a kind to get out. He goes and stays at it until the job is finished or he is told to do something else. He does one piece, the second if told to, the third on protest, etc.

It is not drudgery for a man to do the same process all day. It might be for the man in Connecticut who said he had turned chair rounds three hundred days a year for thirty years.

Neatness and accuracy are closely allied. Accurate work will generally be neatly done. The quality, however, may apply to the method of handling work as well as the appearance of the product.

I am acquainted with a carpenter who is as neat about his work as a good housekeeper. His tools are put in place as soon as he is through using them. He does not have to walk over tools or lumber. He does not have to shove a lot of tools and refuse out of the way to make room for a board on his bench. He does not let tools and material accumulate until he is obliged to have a clearing up. His bench and his chest are always in order. He is not a slow workman, either. He turns off work.

The habit is worth cultivating. Neatness may be more noticeable in drawing than in shop work. Possibly more attention will be paid to it in the drafting room than in the shop but it is no more essential to the draftsman than to the man who works in the shop.

One workman says regarding all these values, "They depend on the year in school, elementary or high, and the purpose for which the work is given, i. e., informational, vocational, disciplinary, cultural."

The writer does not believe either quality need be greatly emphasized above the others for any of these classes. If it is mechanical work these qualities enter into it. If any supervisor, or school principal, superintendent or parent is afraid his boy will be taught to work with too great degree of accuracy, or too rapidly, or will apply himself too assiduously, or will be too careful about the neatness of his work he is acquainted with a different class of boys from any the writer has found in his classes.

The ability to plan or design is probably more of a specialized talent than the others, possibly more of a natural talent. It is possible that a pupil may do very good manual work and not be able to do much in the way of planning or designing.

Good technique depends on the other qualities but not on the ability to originate. One instructor suggested that planning work should mean planning the execution so that the work should be carried along without loss of time or waste of material.

Another says "The ability to plan or design would vary with the grade of students. A beginner has very little ability while an advanced student should have some." While all the qualities should show development as the pupils are advanced none except this fifth one could be entirely lacking in a beginning student and have his work satisfactory. Of course, this or any other plan of grading depends largely upon what we consider essential in our teaching. Those who consider designing a necessary part of all manual training work would rank this quality high in a plan for grading.

One prominent teacher of design says this quality should count 25 or 30 per cent in manual training.

Number 3 says, "General conduct needs no grading but he allows 10% for initiative."

Number 9 says, "General conduct is included in concentration and application."

Number 14 says, "I would give design a value of 10 per cent but ability to plan the work correctly should have more weight as it shows pupil's thinking power."

Number 18 says, "Values are elastic and can be run together." I suppose it depends on that human element.

Number 21, a teacher of pattern-making for many years in a technical school, says, "From my own experience I believe that the first three items are the most important, as the others depend entirely on them as far as pure work in mechanic arts is concerned. From observation I find that pupils in high school (except when emphasis has been placed on the first three) usually do slovenly work and are inclined to loaf because of the idea that care

It is all there is to it. Emphasize the first three and the others will fall into line as indicated."

Member 40 says, "Above is mere dogmatism."

Member 45 says, "Without application no results can be attained, hence content. With neatness and accuracy the rest will take care of them-

Member 49 says, "Personally I do not grade as per above. I say he is a 75% workman. Could you find out how many manual arts teachers take time to grade as above?"

Member 33 says, "I grade accuracy high because modern shop work in industry demands it. With concentration will come much of what follows." He believes most teachers would give credit for effort without much regard for results. The writer never fails a pupil who makes an honest effort and does his best. Doubtless we should have definite standards for grading but there will always be many considerations to qualify the application of these standards. We grade pupils, not work. That human element will always be in our grading.

Respectfully submitted,
A. C. BLOODGOOD, Chairman.

After the reading of Mr. Bloodgood's report, Professor Crawford, President of the Academic Board, U. S. School of Aeronautics, University of Illinois, made the following suggestions relative to this

1. Make each quality more explicit. (Limit and define each quality).

2. Tabulate only those that have every question answered.

3. Mail out at least five hundred questionnaires.

It was moved and seconded that the Committee on the Standardizing Methods be continued.

Resolution carried.

Professor Crawshaw then presented the following paper on "The Relation Between Drawing and Design and the Manual Arts":

The subject of art in its applications to life has been so often discussed that it may seem an imposition to give it renewed consideration of a public nature.

Further agitation by anyone should be regarded as an attempt to stir rather than to review. The one who opens discussion on this subject should do so only because he feels that past efforts in this direction have been unfruitful or because changed conditions make further discussion seem

desirable. Genuine consideration of a subject tends to admit light and should be conducive to some growth. Without question the world is more advanced today as to what art is and what its functions are than was true a few years ago. Past discussions on art then are assumed to have been

out of date. Conditions under which we live today, however, are so different from those which have been generally accepted at any time in the past as substantially correct regarding art and its functions may be out of satisfying at this time.

Upon the ground of changed conditions, therefore, that the subject of art is here discussed. And by "changed conditions" is not meant a departure from past conditions evidenced now as the result of revolutionary changes but rather those changes from the past which are the result of evolutionary movements. It is not art in its relation to life as applicable to war

times that is under consideration, but rather to art in its relation to life in the twentieth century under normal conditions that your attention is invited. Furthermore, only that part of the larger subject which is covered by drawing and design on the one hand as a part of art or the tools of art and by manual arts on the other hand as a part of life or the means of livelihood, is considered.

One of the simplest definitions of art, and one which is particularly appropriate for use in this discussion is: "Art is the application of skill and taste to production according to aesthetic principles." A fair interpretation of this definition it seems to me, would permit a manual art to be included as art, for to "apply skill and taste to production" is certainly the function of all manual arts. This is true whether one considers production to mean the material object which is made by the application of skill and taste in labor, or whether he means the more indirect result of applying skill and taste through human effort, but yet the more subtle and permanent one, if indeed the more intangible one, viz; the development of character in those who make the material objects.

Again, if art is "the application of skill and taste" there must be some means by which the application is made. This manifestly is drawing or design, or both. The artistic production, in other words, materializes by means of the use of drawing or design, or both. In the case of a design which is first expressed by a drawing, as for example, a design for a piece of pottery, a chair or a building, both drawing and design are means in the production of the piece of pottery, the chair or the building. On the other hand, a design may be expressed for the first time in material form in the final "production," as in a beautifully appointed table or room or in the combination of garments making up one's dress.

Arguing from such a point of view as that just expressed, it is easy to harp back upon the old expression, "Art for Art's Sake," and say there is no such thing. And truly this must be so if one goes a step further in the analysis and puts a particular construction upon the word "aesthetic" in the definition here used for art. We are wont to speak of art as divided into two large classes, pure and applied. We are likely to think of "pure" art as that which appeals to one's inner self; his soul, if you will. We are quite as prone to label "applied art" as that which functions in some materialistic way as, for example, the chair functioning as a means of sitting or the room functioning as a means of living. In either case, according to this construction, art, whether "pure" or "applied" is "the application of skill and taste according to aesthetic principles."

In one case, "pure" art—the beautiful picture, bit of statuary, or piece of music—is a production in which the aesthetic appeals to one's spiritual self. It has the effect of lifting us out of ourselves—above the material things of life and into a higher realm of life. It took "skill" and "taste" to produce the picture, statuary, or music. And besides, "aesthetic principles" were used in the production, providing the appeal to the spiritual was made—otherwise, the production was not a part of art. It could not have been in fact for it had no possible function except in this way or in the possibly purely artificial way of filling a place as a bit of decoration. Even this would not be possible for decoration implies an appeal to the aesthetic sense.

In the other case "applied" art—the chair, vase, or room—is a production in which the aesthetic appeals to one's sense of beauty and usefulness. The object is in good form, we say. It has good lines and good proportion and fills a material need. But it is not only useful—it must be beautiful if it is a piece of art and as such it is not related alone to human activities and occupations, but to life itself—that which makes our living more than a mere existence. One may argue, even if he admits this true, that being more than merely useful does not imply an appeal to one's inner self—to his spiritual being—but rather to his intellectual sense. This may be true, but even so there is in this confession an admission that "applied" art functions in more

than a material way—it makes a deeper appeal which at least approaches the spiritual. The “skill” and “taste” used to produce an applied art product such as those ordinarily listed in the category of “industrial” arts or “manual” arts must be such as to call for an intellectual as well as a physical ability if indeed the production is “according to aesthetic principles.” It is a safe hazard that when skill and taste are so applied the product will have value beyond that attached to material product—it will be more than just useful.

Now the crux of this development, whether logical or illogical, is this: The manual arts must be regarded as a part of art as well as a part of industrial production. As such they must have intellectual values and indeed spiritual values also. If manual arts are to be regarded simply as a part of industrial production, they will be swallowed up body and soul by the octopus industry and lose their identity as educative factors either in intellectual or spiritual development. Such a result would be a sad commentary upon twentieth century development for it would be an open confession that revolutionary rather than evolutionary tendencies have prevailed in producing such a result. All of the past history of the manual arts has shown that their development, however crude and ineffective, has been a part of the development of art and industry; a cooperation of drawing and design on the one hand and industrial work or manual arts on the other. To give way now to a production void of the use of aesthetic principles would be to make a possible use of skill to the exclusion of taste. Both are needed to develop a production which is more than material, one which appeals to the inner self and develops character as well as one which is for use in a physical sense.

The cry of the alarmist is not sweet music, but it may be better to reflect upon possible results before rather than after acting. The present day is fraught with danger which may result in an educational peril. We are having forced upon us by existing conditions an abssession that nothing is worth while that does not result in material things—things which are useful regardless of their beauty and their value as educationally constructive agents. This is as it should be if all our energies must be consumed in securing quantity rather than quality results. But in this process we must not lose sight of the fact that by the process we are gradually losing the place which has been occupied by us in the use of educational method. We have had intellectual and spiritual ideals in the past in our educational methods and we must continue to have them in the future. Let the manual arts function as a part of industry now and always, but let them involve thought and feeling in production. In a word, let them be not only the result of skill but of taste, also. May they have an aesthetic content.

How can such a future be insured? Perhaps by no better means than to realize the exigency of the situation. Further than this and more to the point from a practical point of view, by agreeing upon a means of making manual arts as broad a subject as possible both from the industrially practical and from the theoretically educational standpoints. To do this one must admit that whether manual arts is to function, as it should in many cases, chiefly in an industrial product or whether it is to function in a product having individual social or utilitarian value, but more particularly value in character building or as a general educational means, advantage should be taken of all possible means to make it as far reaching in the development of the individual and in his future life as possible. Certainly this calls for the widest use of drawing and design and all other cooperative means of making manual arts effective. Drawing, whether freehand or mechanical, is a manipulative means of expressing ideas; it calls for skill of hand and eye and requires mental coordination. Design, often expressed in a drawing, shows one's sense of the fitness of things. It can reveal the idea of the design only when the means of expressing it is a good execution.

The idea that one can develop a piece of craft work or an industrial product without giving to it his best effort in thought and in the several steps

which are required for the expression of that thought in physical form is contrary to all experience except for the rare individual who may be classed as a prodigy or a genius. In the industrial world the product of industrial value is produced in great quantity by thousands of workmen who give no thought to the production except the mechanical manipulations incident to fashioning material. The one who gave thought to the production was the draftsman or the designer, who studied with minutest care every detail and who drew and redrew, designed and redesigned until the greatest finesse was expressed in the last and finally accepted object. This was to serve as a pattern for the thousands of workmen to follow in the comparatively simple process of mechanical manipulation in fashioning material to duplicate the pattern in form only. The draftsman and designer likewise was the only individual or individuals who got that reaction which involved intellectual and spiritual exercise and uplift aside from that which may result from making as perfect as possible, by mechanical manipulation, the counterpart of a material production. Now if manual arts is to be educative in the largest sense each pupil must receive the benefits of both reactions, viz; those which come to the draftsman and designer in the initiation, and final creation of the perfect model or pattern, and those which come to the workman who produces one or many objects similar to the original model or pattern. It must be evident then that if manual arts are to survive as an educative means, each pupil must be given instruction in good draftsmanship, careful designing, and skillful fashioning of material.

If he is a skillful workman only in fashioning material to imitate in form the creation of some one else, he is a tradesman or vocational worker. Tradesmen and vocational workers are needed and in great numbers, but their training so far as possible should be given during a period following that when the larger educational process is applied to give birth to and begin growth in the widest possible development of individual capacities.

This larger educational process must be governed by the teachers of boys and girls before they are determined as to particular vocational or professional careers. It is the public school teacher in the grades and early high school years, therefore, who must have the vision of the true significance of drawing, design, and manual arts. Either teachers of drawing and design, and teachers of manual arts must cooperate as they have not done in the past or else individuals must be developed and trained who can teach equally well drawing, design, and the manual arts.

No small effort has been exerted to have teachers of drawing and design and teachers of manual arts cooperate. On the whole, this effort has been unsuccessful. The physical conditions for such a cooperation in the average public school system are practically impossible. But more than this, the training of the individuals is such as to make proper cooperation impossible. The teacher of drawing and design is unfamiliar with construction in but few if any of the materials of construction and the manual arts teacher, presumably conversant with construction requirements in the fashioning of materials, is ignorant of the principles of drawing and design and often even more ignorant of their application to materials.

It would seem, therefore, that there remains but one solution of the problem, viz; to train teachers to feel, to think, and to execute in all three of the natural steps in the production of material objects such as are made in the manual arts. This will require time and attention, which has seldom been given to the training of teachers. It means an expenditure, however, which will pay large dividends not only for children who will be trained by those thus prepared, but by the world at large in the molding of opinion to govern educational practice. Americans are not only a get-rich-quick people in money matters, but in educational matters as well. Perhaps no time in history has evidenced this more than the present when every influence seems to be in the direction of making our lives worth while as measured by the quantity of material production rather than, or as well as, by the quality of intellectual and spiritual production.

Following this period of social and economic stress will come one of reconstruction. May it be one for which ideas of the larger life are basic in educational methods. May those of us who can at this time prepare for teaching of the future generation do so in a way to exemplify our conviction that after all, under normal conditions and in times when real constructive ability counts most, it is the thorough preparation for the larger life of life which has the largest individual and national significance.

Dr. Hollister was then given the floor and brought out the following points:

- (1) Art and construction should be linked very closely.
- (2) There is a conspicuous lack of cooperation between the art and manual training departments in our high schools.
- (3) A very strong demand exists for men having an intimate knowledge of details of construction.

Dr. Hollister also suggested that the Manual Arts Section appoint a permanent secretary.

A motion was made and seconded that the Section elect two members for the committee to replace the members whose terms expired this year. Motion carried.

Mr. Heber C. Taylor, of Oak Park, 1919, and Mr. Erwin Touve, Marion, 1920, were elected members of the Section committee.

The chairman announced the appointment of Mr. H. C. Mohler, Decatur, as permanent secretary of the Manual Arts Section.

A motion was made and seconded that the session instruct the permanent secretary to urge the committee appointed last year for purpose of revising the Course of Study in Manual Arts to report at the 1918 meeting. Motion carried.

Moved and seconded that a committee of three be appointed by chairman to revise the art course. Motion carried.

The following members appointed have signified their acceptance: Miss Maud Smith, Bloomington; Mrs. Nelle Wall, Danville, Indiana.

Afternoon Session.

Professor E. J. Lake presided.

Mr. Perry's address, "Certain Mediums in the Manual Arts", was omitted, since Mr. Perry was not present.

The next speaker was Mr. Arthur Owen Jones, Woodward High School, Cincinnati, Ohio, who gave an address on "A Correlated Art Program". A summary of his address follows:

Under this heading I have endeavored to group certain ideas and underlying principles that have determined our applied art course at Woodward School. I shall give concrete examples showing the direct relation between the arts room and the work room and make clear the dependence of

our applied art work upon the knowledge acquired in the regular high school art course.

The primary aim of the applied arts course is a close correlation with the courses of domestic art and domestic science in a manner as varied as possible. Here I wish to emphasize a truth upon which too much stress cannot be laid since upon its intelligent observance depends the success of our applied art work, namely, that a knowledge of the underlying art principles must be the foundation upon which all the superstructure of the correlated art work depends. I feel we shall come to the gist of our subject more speedily by giving a detailed program of our correlated work.

We offer this material in two courses. We name one The Industrial Course for Girls and the other we name the Domestic Art and Science Course. These courses differ only in the fact that the Industrial Course for Girls accomplishes the work in two years and The Domestic Art and Science Course in four years. This difference in time is explained by the fact that the former devote to the course four periods and the latter but two periods per week. A period being forty-five minutes.

The following is the program for the Domestic Art and Science Course two periods per week. In the work room the year begins with the cutting and making of undermuslins. In correlation with this the art room makes designs for feather stitching and simple embroidery, the arrangement and grouping of tucks and lace insertion special stress being laid upon the importance of suiting the design to the material and the use of the garment. As opportunity offers, we turn our attention to the regular high school art course and it is interesting to note how readily the pupils utilize in their applied art work the knowledge of art principles, the inventive power and the hand skill developed in the regular art course. They soon lose all desire to copy designs and display a fine impulse to self-expression.

During this term the art room takes up stenciling and lettering also. In the stencil work the design is made, transferred to stencil paper, cut and applied to the material either velvet, silk, scrim, burlap, homespun, or in fact, any material that will take the dye. With the instruction and practice given in the class it is possible for an ambitious pupil to beautify many things about the home. Indeed this has been done and most satisfactorily too. There is, as we all know, no more simple, effective and inexpensive means of adding touches of beauty to the home than that offered by the stencil and no form of applied art that makes more generous returns for the time devoted to its acquiring.

In the second term the work room concerns itself with the making of a simple wash gingham dress. Before we make our designs for this garment we take up the problem of gingham plaids, calling attention to the up and down, the right and left, and economical and wasteful plaids. We make original designs for ginghams in stripes and plaids. This, besides stimulating the inventive faculty, gives an excellent opportunity to review the principles of color harmony and combination, the secret of beauty in all color effects. As a preliminary to the gingham dress design, in order to get an idea of the proportion of the figure simple sketches are made from life with no attempt to represent details of head, hands, or feet. From these proportions we make a conventional figure and on this develop the design for the dress. In case the added problem of a shirt waist is taken up in the work room the art room furnishes designs in French embroidery, lace insertion or wallachian braid. As in the first term when not engaged in direct correlation, we devote our attention to the regular art course choosing for some of our still life studies, bows and knots of ribbon, feathers and artificial flowers. This is a valuable preparation for the millinery work which is taken up the next year.

In the second year, we take up the designing of a hat, a spring hat, a winter dress, and a wash dress. After making sketches of the prevailing shapes, untrimmed, from models furnished by the domestic science department, the pupil makes suggestive designs for the trimming. When the stu-

dent has selected the shape she desires to make in the work room, it and the desired trimming are carefully drawn and colored, the shape being modified and the color scheme of the trimming chosen with reference to the build and complexion of the proposed wearer.

For the designing of the winter dress and the wash dress, a conventional three-quarter figure is used. Here we take up a more detailed study of the suitability of certain colors to certain complexions, of the arrangement of lines and masses to render less conspicuous certain undesirable characteristics such as high shoulders, excessive leanness or stoutness, or an overtall or undersized figure. We go more deeply and elaborately into the subject of color harmony, harmony of like and harmony of contrast; we estimate the dress value of different textures, rough and smooth, shiny and dull; of different materials, velvet, silk, cloth, nets, tissues, and lace, metal and crystal and enameled ornamentation. We touch on the subject of taste and vulgarity in the wearing of jewelry, on the value of angle and line and curve in the placing of trimming on either dress or hat. We show that certain arrangements make for airiness and lightness of effect and that others are heavy and depressing in appearance—in short, the last word of the art room to the maker of either dress or hat is an effort to teach the secret of securing beauty and fitness combined with inexpensiveness.

As an adjunct to the course, we give a series of talks on the history of costume illustrated by lantern slides showing typical examples of head dress and costumes of different periods and countries.

The aim of this glance into the history of costume is to show the manifold ways in which beautiful effects may be secured, thus enriching the pupils' store of ideas and furnishing new material for originality and inventiveness in their work.

In the third year we correlate with the domestic science course by designing the first and second floor plans and the front elevation of a house while the domestic science department is taking up a consideration of the problem of sanitation. This front view is appropriately colored and the surrounding trees and shrubbery indicated. No course in domestic science is complete without this correlated course in house planning because so much of cleanliness and fitness in the house depends upon the rational arrangement of room, doors, windows and staircases, and in the matter of beautifying the yard, front and back, art and sanitation—cleanliness—go hand in hand.

Besides the scientific side, our houseplanning has an art side, another reason for its place in our course. No feature of our work has proved more interesting than the house planning to the girls because it is the dream of every one to possess a house embodying all the features most desired and the possibility of learning to design such a house gives an unusual enthusiasm to their efforts. As a result of this house planning, she has learned to understand and read plans and express her ideas in the language of plans. If she ever builds this knowledge will be of inestimable value to her. It will enable her not only to understand the architect's plans, but to make intelligent suggestions thus cooperating with him in a perfect realization of her wishes. The lack of this ability to understand the architect's work and to suggest intelligently desired changes leads to most unhappy results, disappointing alike to the architect and the patron. A number of architects in speaking to me have deplored this lack of knowledge on the part of women and have suggested that the public school is the place in which this knowledge must be acquired.

Again as an educational process house planning is of first class importance because it teaches space relation and proportion and develops the power of constructive imagination, one of the highest activities in art effort because the student is forced to call up and hold before the mind's eye a mental picture of the entire house and correlate and synthesize every part in order to secure that quality most desirable in all art work—unity.

A number of talks on the history of architecture illustrated with slides of the different styles, showing examples in our own city as well, completes

the course. These show the debt of the builders of today to the architect the past and reveal the development of man in constructive ability, knowledge of building materials and ornamentation.

The correlated work with the domestic science course the fourth is interior decoration. Each pupil makes a number of color schemes for the rooms of the house she designed the preceding year and in addition draws a large perspective interior of one room in color with all the furnishings indicated. The general principles of interior decoration are discussed showing that certain colors and tones and patterns of wall covering make the room appear small and others larger, that some make it appear dim and others lighter.

We teach that the color scheme must be harmonious and the furnishings appropriate, that everything in the room should have a purpose either utility or beauty. The observance of this principle will eliminate many the useless and inartistic things found overcrowding the rooms of even those who make claims to good taste.

The pupils are given topics on the different styles of ornamentation and the different furnishings of a room, and report in short papers that are read in the class. The aim of this part of the course is to acquaint the student with the various periods of decoration that she may learn something of various ideals of beauty that prevailed at different times among different peoples and familiarize her with the origin of styles that have been revived in our own day in furniture, tapestries, and draperies, rug and velvet hangings, brasses, pottery and china, etc., etc.

The problem of the hanging of pictures is discussed with illustrations showing desirable and undesirable arrangements with a review of the principles involved.

This applied arts course is of inestimable value to the girl whether she goes into the home or uses her acquired knowledge in some gainful occupation. For she has cultivated a refined taste in the matter of materials, and applied decoration, has developed a feeling for the value of line and proportion and an instinctive appreciation for the beautiful and appropriate. She has learned the difference between the beautiful and the merely fashionable and has acquired a self reliance in matters of art that comes from positive knowledge and all this she embodies in her dress and in every detail of her home environment. In her hands money acquires a greater purchasing power for she plans and buys intelligently.

Her training is not only valuable to herself but to the community. She exacts a high standard from the manufacturer and herself becomes a center for the dissemination of taste and culture.

In order that this teaching may be of permanent value and wide application in its results, the knowledge of art principles must be developed and presented in such a manner that the student immediately perceives the relation of these art principles to every feature of our environment in which beauty adds to the value of utility. For example, she must have a knowledge of color values, of the balance, rhythm and harmony of lines and masses, of the decorative value of different materials in order to adapt the prevailing fashions to the individual complexion and build; to design a scheme for interior furnishing with a view to neutralizing architectural defects or to devise schemes of dress and home decoration in keeping with her financial resources.

Given this teaching of the art principles and their application, the student is free to invent, to create, otherwise her work is merely imitative and selective. Thus besides making her more efficient in her Domestic Art the art course develops the power of initiative, a quality that increases tenfold the effectiveness of our mental equipment.

In short besides developing technical knowledge and skill it takes high rank as a cultural subject in that it gives a mental development that may be utilized in any sphere of activity.

Our aim is to make the art work a positive definite thing that can

appreciated and used by the pupils and carried by them into their homes rather than an intangible elusive something spelled with a big A that can only be appreciated by those who go to the art school or academy.

MATHEMATICS SECTION

After a short delay, due to a conflict in assigning rooms, the meeting was called to order by M. J. Newell, Evanston, Illinois, presiding officer, with 125 present at that time.

Dr. H. L. Rietz, University, was appointed to write up a report of the Section to be handed to the general meeting.

Following a few brief announcements, the following committee was appointed to make nominations to fill vacancies in the executive committee of the Mathematics Section:

Dr. E. H. Taylor, Normal School, Charleston

Mr. C. M. Austin, Oak Park

Dr. E. B. Lytle, University of Illinois

With the consent of the Section, the chairman instructed the committee to nominate also a permanent secretary whose term of office should be three years, as that of the members of the executive committee.

Before the meeting opened, the chairman had provided slips of paper and pins and insisted upon each person tagging himself as a means of introduction. A "get-acquainted policy" was urged upon all the members.

The first paper of the morning was given by Messrs. H. O. Rugg and J. R. Clark of University of Chicago and Parker High School respectively, and follows:

A FOURTH REPORT ON THE STANDARDIZATION OF FIRST YEAR MATHEMATICS

H. O. Rugg, University of Chicago

J. R. Clark, Parker High School, Chicago

To the Mathematics Section of the University of Illinois High School Conference, Urbana, November 23, 1917:

Successful experimentation in first year mathematics rests upon the first two important steps of the program, which have been taken by the Committee on Standardization of First Year Mathematics.

I. We have designed and given tests which adequately measure ability in each of the fundamental phases of subject matter agreed upon; (during the years 1914-1917 inclusive, the Committee carried through this program to completion as regards the formal operations of algebra). We found (1) limited unsatisfactory achievement in pupils in formal operations; (2) decided inability of pupils to use formal operations in verbal problems; (3) occurrence of important types of recurring errors show evident lack of habituation and of proper distribution of teaching emphasis; (4) prevalence of accidental errors—carelessness a powerful enemy of success among our pupils—is materially counteracted by intense concentration which comes with working under "time" conditions.

II. We have evaluated critically the results of the testing so as to give complete and differentiated statements of the fundamental weaknesses in learning (e. g. as revealed by the typical errors made by pupils.) (Brief sketch will be given here of the method by which these two steps have now been completed.)

III. During the past year we have set up an experimental attempt to eliminate these fundamental weaknesses; from the standpoint of economy of time, this means *the designing of practice exercises*, the determination of specific best ways of presenting material, of order of presentation and optimum length of drills. The carrying out of our third step has embraced the following procedure:

1. The critical observation of daily class-room teaching by both members of the committee.

2. The keeping of detailed records: (a) of important difficulties met by pupils with both formal and reasoning work; (b) of successful and unsuccessful methods of presentation of each type of subject matter; (c) of daily practice in ability to handle formal operations (e. g. scores on practice exercises); (d) of general reasoning abilities with quantitative material (e. g. tests for "quantitative intelligence" which will enable teachers at the beginning of the term to rank pupils in order of ability in first year mathematics); (e) of "reasoning" tests for ability to translate verbally stated problems into algebraic language.)

3. Daily conferences on appropriate content, on proper distribution of time and of emphasis (both within a class period and in successive periods), on best methods of rationalizing new material, on best methods of reviewing both with formal material and without subject matter which is set in verbal form.

4. Daily stenographic record of the conferences and of the class room work. We are showing that the greatest improvement in teaching comes through comparisons of critical judgments (both of the teacher and of the trained observer) recorded immediately following the class periods.

The Standardized Practice Exercises

The measuring of results, and the development of skill with the formal operations necessitated the designing of formal practice exercises.

1. *Purposes and principles of design.*

- a. General improvement of ability with formal operations.
- b. To concentrate practice upon the difficult operations in proportion to their difficulty.
- c. To concentrate practice on *important* operations. Tests of importance are:
 1. Extent of use in subsequent work;
 2. Relation to the *larger aim* of the course.
- d. To economize time in order that the larger portion of class room time may be devoted to thought work.
- e. To establish definite goals of achievement.
- f. To provide the stimulus of a "time limit."
- g. To place upon the pupil the responsibility of keeping a continuous record of his progress.
- h. To use the "cycle" scheme of arranging examples in order to be able to use the exercises as tests and to begin practice with any example.
- i. The material should be used only after a thorough rationalization of the process in question.

The above experimental program has already enabled us to establish important principles of value to the improved teaching of first year mathematics. (Success in teaching depends upon a clear recognition of the outstanding ways in which pupils learn. Maximum efficiency in teaching there

fore depends upon the closeness with which the methods of presentation are in harmony with these natural methods of learning.)

Fundamental Principles of Economy of Time in Learning Which are Coming as Results of the Experimental Work

1) All new mathematical material should be introduced by "quantitative" interpretation of a situation or experience that is real to the pupil (Illustrations are: evaluation by evaluating cwt; 5 M; 7 doz.; the cost mark on an article, etc.; negative numbers by thermometer records, debit and credit, etc.; factoring by finding the dimensions of a rectangle of a given area.) Thus the initial presentation must relate directly to the practical, every-day experiences of first year pupils.

In this connection a controlled experimental study is being made of a *very important and much debated issue in learning school subjects*, viz: "Shall the various operations be taught carefully upon a thoroughly rational basis or shall the pupil be permitted the early use of a rule-of-thumb method of meeting problem situations, or, in other words, is "habituation prior to rationalization desirable." Description of method of attacking this problem.

2) Subject matter from the first day to the last should be organized rigidly in terms of gradual increasing difficulties; problem work organized so as to reveal no gaps in learning. Careful investigation of the organization of problem work as well as of topics in currently used first year books shows that no text book has been built adequately in accord with this principle. It should be stressed that these gaps in learning cause the high percentage of failures in high school mathematics.

3) Progress in learning is from the "undifferentiated"—from the "general"—to classified, organized, related particulars. We learn by first attacking "meaningful wholes." We have detailed experimental evidence showing that our courses of study should recognize this, e. g. by beginning with the factoring of a trinomial of the form ax^2+bx+c instead of logically attacking the many special cases of this expression (e. g. see the *seventeen types of factoring in Wentworth-Smith*.)

4) Influence of the time limit. The results of our investigation are proving conclusively the value of teaching under time conditions all phases of mathematical subject matter except the rationalizing of relatively new kinds of material.

5) Fundamental to the rational work in first year mathematics is the process of making the learner *conscious* of a method of attack or procedure which is common to all problem situations.

Our class-room experimentation has led us back to the most important theme of current educational discussions in mathematics:

The Making of a Course of Study in First Year Mathematics

The work done by this Committee on the "course of study" extends over three years, and embraces three important investigations:

1. The first is that of *determining the present status of the first year course*. Detailed tabular analysis and careful interpretation of nine representative texts in algebra in 1915-1916 which were used in more than 85% of the schools of the country established the following important conclusions about the *present content*:

1. 85% of the material of algebra (either descriptive matter or exercises) is of a formal nature; only 15% presents real opportunity for meeting new "problem" situations. Only one example in forty makes use of the fundamental method of graphically representing numbers.

2. The very great differences between text books in the number of problems are arbitrary and accidental. There is no evidence that the number, distribution and arrangement has been designed with reference to a careful study of the learning of pupils.

3. There is very little systematic "oral" work provided as such in the texts.

4. *Graphic representation* is a recent innovation. It gets less than 3% of the teaching time, and is taught as a separate "operation" rather than as one of the two *important* methods of representing numbers.

5. Three-fifths of all verbal problems involve equations in the first degree, one unknown; 20% are on quadratics; one-sixth on first degrees, two unknowns.

6. Less than 2% of all verbal problems give specific opportunity for practice in "translation" as such.

7. Slightly more than one-fourth of all formal examples make use of the equation.

8. *One-sixth of the entire book is devoted to the four fundamentals.*

9. Only $2\frac{1}{2}\%$ of the course is devoted to the important process of evaluation which our recent investigation shows to be one of the five fundamental operations of first year algebra.

10. 17% of the *whole course* is devoted to *factoring and special products* which our recent investigation shows are not used even in later high school subjects.

11. Angular and linear measurement, ratio and proportion—even the use of literal formulas, barely get mention in the first year mathematical course, yet the formula is shown to be one of the fundamental operations even from the standpoint of utility alone.

12. The order of introduction of the operations is almost exactly the same in the nine books.

13. The authors of these text books which are now determining what is taught to first year pupils throughout the United States are nearly all committed to the use of rules.

14. A careful study of these books shows conclusively that they have been designed to accord with the interests and powers of logical thinking which are common to adult minds that have been thoroughly trained in mathematics, and that they are not fitted specifically enough to the mental abilities of children who are forced to take these courses.

Recent Attempts to Modify the Present Content of the High School Mathematics Curriculum

Teachers and writers of textbooks in high school mathematics have recognized many of the conditions pointed out above and we note important new tendencies in curriculum construction.

1. The extreme vocational demand: "Corporation," "apprentice" schools; half-time co-operative schools; correspondence schools; extension and short courses in mathematics for industry and agriculture; business and commercial applied mathematics (arithmetic.)

2. The degree to which the traditional mathematics books and courses have been modified:

- a. Books on "applied mathematics," "shop mathematics," etc. show formal acquiescence to demand for introduction of specialized subject-matter. (1910-1915.)
- b. The movement for "combined" or "unified" mathematics. Myers and Breslich the leaders.
- c. Tendency toward a thorough-going modification of "content" in general mathematics (e. g. Evans and Marsh; Keal and Phelps.)
- d. Junior High School mathematics movement (since 1916). A new impetus to the "unified" movement, which looks downward into the grades instead of upward. Present tendencies show that high school men are working toward a two-year or two and a half year course, covering the applications of arithmetic, elementary and fundamental algebraic tools, and essential geometric devices.

Fundamental Principles for the Making of a Course of Study in First Year Mathematics

The fundamental principle underlying the construction of courses of study in the public schools of America is that subject matter shall be general and not specialized. The design of our courses of study is diametrically opposite in thesis to that, for example, of the German Empire. We have adopted the principle of putting into our courses only those types of information, those fundamental skills, those types of reasoning situations which ought to be relatively common to the adult lives of the boys and girls who pass through them. Our courses are fundamentally general and not specialized.

Hence, if mathematics beyond arithmetic is to be *required* of relatively all children who pass through the public schools, it must at least contain and ought to emphasize those fundamental quantitative *notions* and tool *operations* which are necessary to successful handling of either tool or problem situations in later life. These tool or problem situations may be found either (1) in *further study in the public school course*; or (2) in the *specific occupational activity* of adults; or (3) in the *daily activities outside either school or occupation* (and including the leisure-time activities.)

Therefore, the construction of a one-year course of study in mathematics which shall be *required* of relatively all children who pass through the public schools necessitates the satisfaction of two criteria: (1) the social criterion; this implies that we must determine the mathematical needs of adults in their occupational and non-occupational activities. (Apropos of situations found in the trade school, the "corporation" or "apprentice" school, and the "correspondence" school,—all are desirable for inclusion in public high school courses *only on condition, first* that they are common to the occupations of a reasonably large proportion of the adults, who as children pass through the grades in question; and *second*, that they are not so specialized as to be relatively unintelligible to children. The latter point implies that there must be in the situations, that we include in our course, the possibility of grading the subject matter minutely *in terms of the learning of children.*) This points to: (2) the *psychological criterion*.

Whereas considerable progress is being made in the improvement of the course of study from the standpoint of adapting it to social needs, almost no advance has been made in constructing courses strictly in accordance with psychological analysis of learning the various types of subject matter which are represented. *Our second important principle, therefore, is that of organizing each element of the mathematics course of study completely in terms of facts of learning which have been established for the kinds of subject matter in question.* To the satisfaction of this criterion our classroom experimentation is contributing in an important way. (See notes above on Economy of Time in Learning.) Each item of subject matter which demands admittance to the course of study on social grounds must be carefully studied from the standpoint of learning. *This cannot be done introspectively by adult-trained judgment—it must be done by careful class-room experimentation.*

Our next step, therefore, after establishing the present status of the course was:

II. *To determine the frequency of use of the operations of first-year algebra in other high school subjects.* This, we believe to be the *most important single aspect* of the criterion or "utility" in mathematics. The tabular analysis of the most representative text book and laboratory manual in each of the other high school mathematical courses and in the other high school subjects which has been carried through to completion by our Committee during the past year leads to very far reaching conclusions. The complete report may be illustrated by the following:

1. *Relative Use of Certain Topics of First Year Algebra,—in F4 Year Algebra.*
 - a. 30% of the problems in Wells & Hart's "First Course" involves some kind of *factoring*. More than 40% of the *factoring* problems occur as formal exercises for the *learning of one or more particular kinds of factoring*. More than 75% of these factoring problems are used *only* in some form of factoring. There are but two operations, aside from forms of factoring, in which factoring is used as an *ecumenical tool*, namely, combinations of fractions and solution of fractional equations.
 - b. *Graphic representation* is introduced as an isolated operation,—shown by the fact that 70% of its use is confined to formal exercises in learning to make graphs.
 - c. There is more provision made for practice in working "*imaginaries*" than for graphic representation or for formulas.
 - d. There is more practice given in *reducing fractions to low terms* than to graphic representation, literal formulae, or literal equations combined.
 - e. Only 9% of the problems of the book involve the use of *evaluation*; (even this small amount includes "substitution in solution of simple equations with *two unknowns*.)
 - f. The use of exponents occurs in half the problems of the book.
2. *The Use of Operations of First Year Algebra in Advanced Algebra*
 - a. While *evaluation* gets little emphasis in first year algebra at the time when it is necessarily learned, it begins to reveal its importance in advanced algebra and other courses (20% of the problems of the book make use of it.)
 - b. *Ratio and proportion* and *graphic representation* get almost no attention.
 - c. There is more emphasis on *imaginaries* than on formulae and graphic representation combined.
 - d. There is more emphasis on factoring of "*sum and difference of two cubes*" than on graphic representation and on formulas combined.
 - e. Classifying the operations of first year algebra in order of frequency of use in advanced algebra, we find (1) of *great importance*: parentheses, radicals, and evaluation; (2) *showing considerable use*: equations in the first degree with one unknown, exponents, multiplication and division of fractions, logarithms; (3) revealing little or no use: the remaining twenty-five operations which are brought in in elementary algebra.
3. *The Use of Operations of First Year Algebra in Plane Geometry and Solid Geometry.*

We may summarize the findings briefly by classifying the operations in terms of "wide use," "considerable use," and "little or no use."

1. Operations which show frequent use in plane and solid geometry.

Plane Geometry		Solid Geometry	
Evaluation	62.4%	Evaluation	81.1
Multiplication and division	57.6%	Multiplication and division	34.1
Equations of the first degree, one unknown	38.4%	Equations of the first degree, one unknown	20.1
Exponents	21.2%	Exponents	27.1
Radicals	32.5%	Radicals	28.1

2. Operations which are used to a noticeable extent.

Removal of parentheses	17.5%	Removal of parentheses	16.2%
Equations of the second degree, one unknown	16.4%	Equations of the second degree, one unknown	19.6%
Multiplication of fractions	13.3%	Multiplication of fractions	6.9%
Fractional equations	11.0%	Fractional equations	11.6%
Ratio and proportion	12.4%	Ratio and proportion	6.9%
3. Operations which have little or no use in plane and solid geometry.

The remainder of the operations.

4. *Use of Operations for First Year Algebra in Physics.*

Using the same classification as in geometry, we find:

1. Operations which show frequent use in Physics.

Multiplication and division	55.8%
Equations of the first degree, one unknown	52.4%
Evaluation	80.3%
2. Operations which are used to a noticeable extent.

Fractions (multiplications and division)	19.0%
Fractional equations	18.4%
L. C. M. and H. C. F.	18.4%
3. Operations which have little or no use in physics.

The remaining twenty-six operations.

5. *Use of operations of first year algebra in high school chemistry.*

Using the same classification as above: Operations showing frequent use.

- | | |
|--|--------|
| Equations of the first degree, one unknown | 100.0% |
| Multiplication and division | 100.0% |
| Ratio and proportion | 84.9% |
| Operations which are used to a noticeable extent. | |
| Evaluation | 18.9% |
| Operations which have little or no use in chemistry. | |

The remaining twenty-eight operations.

III. Since one, but only one, of the criteria for building a course of study in first year mathematics is that of satisfying *occupational needs* common to a reasonably large proportion of those who study it, the committee is now carrying on an investigation covering the following steps:

1. Determining the occupations into which pupils who leave school in the seventh, eighth, ninth, tenth, eleventh, and twelfth grades go.
2. Analyzing "corporation" and "apprentice" school courses.
3. Analyzing "extension" and "short" courses in industrial and agricultural mathematics.
4. Analyzing mathematics courses in "technical" high schools.
5. Analyzing old "applied mathematics" and new "general mathematics" books.

The complete report of the five years of investigational work (1913-1918) on the Standardization of First Year Mathematics will be published as one of the *Supplementary Educational Monographs* (Univ. of Chicago Press) at the end of the current school year. This will tie together for teachers of mathematics and for students of education all phases of the "measuring movement in first year mathematics."

Dr. E. B. Lytle, of the University of Illinois, gave the following very interesting and practical paper on "The Introduction of Demonstrative Geometry":

"When you come to the geometry class you must leave your common sense behind," is the most astounding statement that I have ever heard a teacher make to students. Some time ago I was visiting a geometry class in one of the larger high schools of this state. The class was in the first week of geometry study; after the class had gone through formally the usual proof of one of the earlier theorems, a bright youngster remarked, "I don't see the use of all that talk. I knew that theorem was true before by my common sense." Then came this most startling statement from the teacher, "Fred, when you come to the geometry class you must leave your common sense behind." No wonder there was great mental confusion and little, if any, interest evident in that room.

I was introduced to demonstrative geometry by an attempt to prove the obvious theorem, "All straight angles are equal," and remember my distress at the fuss made over the truth of so simple a statement when its truth seemed to be self-evident to anyone with ordinary sense.

These are not uncommon experiences, judging from the many people who tell of the long time it took them to see just what the purpose and value of geometry was. Just this week an excellent teacher told me he believed the success or failure in geometry was very largely determined by the character of the first few weeks' work in the subject. Widespread dissatisfaction with the old formal methods and appreciation of the importance and difficulty of a good introduction to demonstrative geometry have roused interest in the question before us for discussion, "What is an effective way to introduce class work in geometry?"

Before beginning a course in demonstrative geometry it is desirable that the students take some preliminary work in observational geometry. For example, such a course as that in concrete geometry recommended by the N. E. A. Committee of Ten on Secondary Studies (Report 1894, p. 110), or as that given in Hedrick's little book on "Constructive Geometry" (Macmillan Co. 1916). But since such courses are found in few of our schools we will assume in this discussion no more preliminary work in geometry than that which is gotten from drawing courses, arithmetic and general daily experience. We will assume further that the work here outlined is for the ordinary classes of second year high school students, since demonstrative geometry is usually begun in the second year in most of our high schools. We offer no argument for an informal beginning since there is quite a general agreement that such an introduction is necessary. That this need has long been appreciated in Germany, France and Italy is shown by the numerous preliminary, or "pro-paedeutic," courses offered in their elementary and secondary schools, such as those outlined by Veronese, Holzmüller and Simon, and by the able discussions of the merits of such courses as found in Reid's "Anleitung Zum Mathematischen Unterricht." (Berlin 1906), in Schotter's "Inhalt und Methode des planimetrischen Unterricht" (Leipzig, 1890), and in Simond's "Methodik des Rechnens und der Mathematik."

There are three aims in this preliminary work; 1—to review, clarify and informally develop from previous experience the fundamental notions of geometry; 2—to introduce the technical language of geometry, and 3—to create a feeling of need for proofs by slowly bringing students to the point of searching for reasons. We are too apt to forget that students beginning geometry already have much geometric knowledge which only needs to be clarified and translated into the technical language of geometry. Further, students will never appreciate what "geometry is all about" until they feel a real need for seeking reasons. The old, and unfortunately, too often the present practice of beginning by attempting to prove statements which seem perfectly obvious makes the whole subject of geometry seem trivial to the students and discourages interest. Carson well says, "One of the few really certain facts about the juvenile mind is that it revels in exploration of the unknown, but loathes analysis of the known" (Mathematical Education, Ginn & Co., 1913,

p. 10). Klein is thinking of the same quality of the juvenile mind when he says, "At the beginning I pay no attention whatever to proofs, but am satisfied with the 'Behold' of the Hindus, until by very slow degrees I have brought my pupils to the point of searching for reasons." (*Jahresbericht der deutsch, Math. Ver.* 1904.)

What principles will guide us in attaining these aims? 1—There must be either a direct or an indirect basis of sense perception; 2—that which is new or general must be made real by application to or connection with past experience; 3—the method must be that of analysis and introduction rather than deduction; 4—there must be motivation through the early creation of a desire to find reasons for beliefs.

"There is nothing in the understanding which has not been first in the senses," is an old pedagogical maxim. Any idea we have if carefully analyzed may be run back to sense perceptions.

This basis is shown by the difficulties in the education of such defectives as Helen Keller. So there must be some use for models and figures in beginning geometry as well as some measuring of lines and angles. But care should be taken not to overdo this work. Dewey says, "It is foolish to insist upon the observation of objects if the student is so familiar with the objects that he could just as well recall the facts independently." (*Democracy and Education*, p. 185). Frank H. Hall used pins stuck into flat cushions to give his blind students something in place of our figures. He said his blind students would use his pin-cushion figures only a few days because by that time they could imagine the figures and thought the pin-cushions a nuisance. It is deadening to interest to continue the use of models and concrete work beyond the point of usefulness. Basic sense perceptions are necessary in new experiences but their continued use in familiar situations is both distasteful and detrimental.

"Vague generality" is a common term of criticism. General terms and general statements too frequently lack reality and do not carry meaning. Students seldom feel the need of following up definitions with one or two concrete illustrations or special cases. Teachers generally fail in developing the habit of illustration in their students, which habit is necessary evidence of reality or true comprehension.

Since text-books in geometry almost universally present proofs in the deductive form there is grave danger that students will fail to see the true methods of originating proofs. Their great difficulty with originals is evidence of a lack of training in methods of attack or discovery. Have your students ever said, "Yes, I understand that proof and see that it is all true, but how did the author ever think of doing it that way?" Failure to develop the analytic and inductive methods of attack and too early emphasis upon the deductive forms tends to simple memorization of proofs originated by others. "Scientific method applied to the teaching of solving mathematical problems means the method of discovery, the method of induction, the method of analysis." (*Scientific Method*, F. W. Westaway, p. 412). Deduction is the method for presenting final results where the false starts, the wrong suggestions, the study of special cases, and the unsuccessful trials of discovery have been left out; in presenting proofs in deductive form all the scaffolding of discovery have been removed. If students see only polished deductive proofs in the text-books, and neither originate a proof by themselves nor witness the teacher discover a proof, there should be no surprise at their lack of ability in the discovery of proofs.

As suggested at the beginning of this paper, the first great difficulty in beginning demonstrative geometry is to make the students see the purpose of it, to make them feel what we are driving toward. The poorest possible beginning is in attempting to prove theorems which seem obviously true to the students. We should early make them see that we are trying to give valid reasons for our beliefs about geometric things. Simply stated, a proof consists in the production of facts as sufficient reasons to support some conclusion, implicitly challenging a denial of either the truth or the relevance

of these reasons. The first step is to get the students to make statements which they believe to be true about some figures they have seen. These can be brought out by good questions from the teacher. The second step is to call for reasons for their belief and the third step is for them to attack and show insufficient some reason given. In the beginning reasons should be accepted without discussion, meanwhile watching for incorrect reason to attack. Probably the first wrong inference will be that some lines are equal or parallel because they look equal or parallel. These appearances are often deceptive and may well be shown by certain optical illusions, which the teacher keeps at hand for such purpose. (See 1901 Proceedings of the Central Association of Science and Mathematics Teachers and Wentworth-Smith Plane Geometry, p. 15, for useful optical illusions.) Likewise measurement always appeals to beginners as a good reason for the truth of equalities in geometry. Although often using measurement to suggest truths, yet students must early be convinced of the difficulty of accurate drawings, that measurements are at best only approximations, that more simple and precise tests for equality are needed. The weakness that the difficulty of making accurate measurements, their approximate character and the feeling of repulsion which the abler students manifest at much measuring, is not sufficiently appreciated by teachers. In an conversational way students can be led to see weakness in their old way of reasoning and to feel a need for better reasons for their beliefs. With little skillful guiding they soon find delight in seeking reasons for their beliefs which will stand up against all attacks upon either their truth or relevance. Only after the students have attained some appreciation of the purpose of proofs should they be led to put their final results into their precise and elegant deductive form.

Having considered general principles we shall now give their application. The students should come to the first class provided with pencil, ruler, compass, and protractor. Through oral directions give the following constructions:

- (1) To bisect a given line segment.
- (2) To bisect a given arc of a circle.
- (3) To bisect an angle.
- (4) To erect a perpendicular to a line at a point in the line.
- (5) To drop a perpendicular to a line from a point without touching the line.
- (6) To trisect a right angle.
- (7) To inscribe a circle in a triangle.
- (8) To pass a circle through three points not in a straight line.
- (9) To draw a line parallel to a given line through an exterior point.

Make no attempt here to give the usual proofs of these constructions. If students question their truth give them approximate verification by measurement. Next have the students write a description of each construction in a note book. Thus for (3) they would write something like the following:

To bisect any angle BAC.

With A as a center and any radius r , describe an arc intersecting the single sides in M and L. With M as a center describe an arc of a circle with radius r . With L as a center, and with the same radius describe another arc intersecting the first arc in a point K. Join K to A and the line AK is the required bisector.

While learning these constructions and writing up their descriptions students are introduced to the symbolism of geometry; they learn to read lines and angles; use the simpler letter notation wherever possible. While this work is being done in class periods under the direct supervision of the teacher, assign for home work related construction problems, such as "Construct a square", "Inscribe a square in a circle", "Construct an equilateral triangle", "Construct a regular hexagon", etc. Geometric signs involving the fundamental constructions may be used for home work. (Hedrick's "Constructive Geometry" will suggest home work to the teacher.)

During all this work the teacher should have before him a list of geometric terms which he expects to fix in the students' minds; such as point, line, ray, angle, etc.

ing position only), straight line (length only, no breadth or thickness), plane, solid, rectilinear figure, parallel lines, curve, circle, radius, diameter, chord, angle, right angle, acute, obtuse, complement, supplement, interior, exterior, vertical angles, bisect, trisect, etc. Develop the meaning of each of these terms by means of questions, and illustrations; ask the students to point out examples of these terms by means of questions, and illustrations; ask them to find examples of these about them; translate old expressions, like "corners fit", "square corner", etc., into geometric language; compare their definitions with dictionary and text definitions; make these terms meaningful by continued and careful use. The originality and questioning skill of the teacher will direct this work of fixing fundamental notions and correlating them with their daily experiences.

If we are to avoid attempting to prove that which seems obvious to the students there must be a broader foundation of assumptions than is common in beginning geometry. So the teacher should also have before him a carefully prepared list of obvious geometric facts which he expects to use as assumptions in later proofs; such as (1) All straight angles are equal, (2) All right angles are equal, (3) The shortest path between two points is the line segment joining the points, (4) Two distinct points determine a straight line, (5) Any side of a triangle is less than the sum of the other two sides, (6) A diameter bisects a circle, (7) A straight line intersects a circle at most in two points, (8) Complements (or supplements) of equal angles are equal, (9) Two lines parallel to the same line are parallel to each other, etc. (The introductory chapter in Young and Schwartz's, or Wentworth-Smith's Geometry, or the Report of the National Committee of Fifteen on Geometry, p. 20, will assist a teacher in making such a list of fundamental geometric assumptions.) In most cases the emphatic statement of these fundamental facts is sufficient to bring conviction of their truth: informal discussion will bring acceptance of the truth of all; draw figures illustrating these fundamental facts; seek illustrations in every day experiences. After oral discussion has fixed these facts they should be carefully listed in the students' notebook for future reference.

In order to make progress toward proving theorems, next develop with the class proofs for the simple theorems (1) Vertical angles are equal, and (2) The bisectors of vertical angles form one and the same straight line.

Next take up the construction of triangles, from given data, as from two sides and their included angle, considering the usual four cases. Consider also their application to right triangles with necessary modifications in statement.

From this consideration of triangle construction make the transition to the formal proofs of congruent triangles as given in most texts, and begin from this point on to make use of the text books. By certain judicious omissions it is believed that this introductory oral work can be here connected up with any one of the text books now in common use.

Within the space here available, it is impossible to give all the details of the plan for introductory work here presented, but it is hoped that enough suggestions have been given to enable the teacher to complete all the details and adapt the scheme to his particular class and text. The length of time given to such an introduction must be determined by the preparation and the particular needs of each class. It may be quite short if students have had preliminary courses in constructive or concrete geometry. The prolonging of such informal work when not needed will tend to disgust the abler students.

The writer knows of no text on demonstrative geometry which gives a sufficiently informal introduction and doubts whether such work can be put into a text with as effective results as when presented in class by the teacher. Some texts (Wentworth-Smith, Wells-Hart, Young-Schwartz, Long-Brenke, for illustration) however have greatly improved the introductory work.

This is one way of introducing demonstrative geometry. I hope the suggestions will assist the skillful teacher in making the study of geometry real, interesting and valuable.

In the discussion of this paper Mr. E. L. Mayo, of the Townshend High School, Joliet, told what he had found from practice to be helpful in Plane Geometry Work. His paper on "The Introduction to Geometry" follows:

The study of Geometry may be divided into three parts: constructional or inventional; experimental; and demonstrational.

Constructional Geometry may be taught in the grades without any attempt at experimental or demonstrational, experimental may be used as means of interesting certain types of pupils who crave some practical application, as they like to express it, but demonstrational geometry must have its foundation in constructional.

What a boon it is to the high school pupil, and incidentally to the high school teacher, if his teachers from the kindergarten and up give some geometry training. Beginning with object teaching and paper folding in the kindergarten, continuing with constructional drawing and a study of the simpler geometric forms, such as: the triangle, circle, parallelogram, rectangle, etc., up through the grades, the pupil has, when he reaches the High School, some idea of form to aid him in his attempts at logical reasoning with figures that are there presented to him.

Experimental Geometry is discussed at length in the Teaching of Geometry by David Eugene Smith. For many classes this work is entirely unnecessary, but may be resorted to in the case of pupils who need some external motive for the study of Geometry. Examples of this are found in simple field measurements that can be made about the school ground, and in the cutting out of one triangle with one side equal to another, then with two sides equal, then with two sides and the included angle equal.

For most of us the problem of teaching Geometry is that of introducing an entirely new subject, so without further delay I will proceed to discuss what experience and reading have taught me in the proper way for me to be doing. The pupils come to us with this thought uppermost: Geometry is hard. John Smith said so.

In order to show the pupils that John Smith's verdict may be wrong, I like to pick up a chalk box, and, asking the pupils to look at the corner, have them imagine the wood all gone and think of the corner as a geometric point. Compare it with the dot or period they have used in English or Arithmetic and show how impossible it is to make a geometric point, because there must always be some substance with it. Does it have length? No. Width? No. Thickness? No. What has it then? It has position only. Then with the edge of the box, imagining the wood all gone and only the outline of the edge remaining, we have a geometric line that has one dimension, length only. This line, because of its single dimension, can be prolonged in either direction as far as we please, and the finest line we can make is its true representation. However, it is not a geometric line, because it has some width and some thickness, the width of the mark and the thickness of the chalk dust. Carrying this idea still further, we find that the extreme outside face of the box has length and width but no thickness and is a portion of a geometric plane that can be produced in all four directions up or down at either end. If the outline of the entire box were left, we would have a geometric solid.

This carries us into solid geometry. In plane geometry we are concerned only with points, lines, and planes, and combinations of these to form figures, the properties and measures of which we study.

The first recitation period is usually very short; hence not much progress can be made the first day.

As the assignment for the next day, have the pupils read through the introduction to get a general notion of what it contains and a definite notion of the symbols and abbreviations used in the course, together with the axioms and postulates that are there set forth. Instead of having the pupils learn

the meaning of all the terms at once, let the introduction serve as a dictionary to turn to whenever a new term is introduced in the work.

are Before going further, let me enumerate the axioms and postulates that are sometimes omitted from texts and yet are extremely useful to the beginner.

the Axioms: If the first of three quantities is greater than the second, and the second is greater than the third, then the first is greater than the third.

ity. A quantity may be substituted for its equal in an equation or an inequality.

If unequals are added to unequals, the less to the less, and the greater to the greater, the sums are unequal in the same order.

Postulates:

Any geometric figure may be moved from one position to another without change of size or shape.

At a point in a line one and only one perpendicular can be drawn, is often given as a theorem but may very properly be assumed. Also the theorem that a diameter divides a circle into two equal parts may be assumed.

Speed the day when circumference will mean circle in geometry as well as in higher mathematics and everywhere else in life.

As a carpenter must have tools at hand, ready to use when he wants them, so the student of geometry must have at hand axioms and postulates as well as definitions upon which to found his proofs.

The next few class exercises are taken up with constructions of the simplest kind; viz., to draw a line equal to a given line; to draw an angle equal to a given angle; to bisect a given line; to bisect a given angle; to erect a perpendicular to a given line at any point on the line, from any point without the line, or at the end of the line.

In this construction work there is plenty of opportunity to impress upon the beginner the necessity of drawing accurate figures making the lines intersect exactly at the point intended, and placing the letters exactly at the vertices or intersections of arcs and lines. The attention of pupils should be directed to the use of capitals and small letters, the capitals for points and the small letters for distances or angles. The reading of angles is another point that might better be attended to at the very beginning of the course, and it would make for efficiency in the work farther on if the angles were read counter clockwise, and to be consistent with this the figures lettered in the same manner.

If other letters than those used in the book are taken, and their use should be encouraged, let them follow consecutively rather than hit or miss, as h, k, p, etc.

If after drawing a number of simple construction problems, with no attempt at proof of any of them, the class seems to be lacking in interest, introduce a few simple geometric designs such as the conventional six-petal flower, or the circle with four intersecting inscribed circles, drawn with a radius half the length of the radius of the given circle, or the arch of a Gothic window, or the three-leaved shamrock design. Stop work on these when the interest is keen and before it lags.

As soon as the pupils are able to make the simple constructions named, the class is ready to be introduced to the real problem in demonstrational geometry; the theorem, its parts, and its proof.

If we begin with the superposition proofs, as I like to do, ask the pupils how they would measure two pencils to see whether or not they have the same length. Usually among the many answers, some one will say, "Put them down together and see if they fit." This is what we are to do with these triangles mentally. Read through the theorem carefully, making certain that every word is thoroughly understood. If two triangles have two sides and the included angle of one equal respectively to two sides and the included angle of the other, etc., separate it into hypothesis and conclusion. To make sure that the pupils have the right idea of hypothesis and conclusion, have them select these parts from several of the theorems near the beginning of the book. Draw one triangle. Then with the hypothesis clearly

in mind, draw a second triangle by construction, making one angle equal to an angle of the first, by the problem, to draw an angle equal to a given angle. Now lay off on its sides two lines equal to the two sides of the first triangle including the angle considered by the problem, to draw a line equal to a given line.

What part of the second triangle has not been measured with the first triangle? Some one will see it is the third side. Now that we have our figure drawn, let us state what parts we know to be equal. In the triangle $A B C$ and $D E F$ $\angle B = \angle E$ $AB = DE$ and $BC = EF$. To prove triangles $A B C$ and $D E F$ congruent. Use the divided page for the proof and write out a model demonstration, working with the class if the book is not arranged in that manner. While it is not essential that everyone use the same words in demonstrating the proposition, it is essential that everyone be able to separate his or her proof into the assertions and reasons or statements and authorities.

After the first theorem has been mastered, or even before all the class have fully mastered the proof of it, introduce some simple exercises that can be found in any good text that will use the theorem just proven for their proof. By so doing, the pupils can see at once how knowledge gained in geometry can be applied. The principle that in triangles proven equal, equal sides lie opposite equal angles and equal angles lie opposite equal sides is illustrated in these simple exercises.

As soon as the subject has been pursued far enough to make a start classify the "cardinal truths" under the following heads: two lines are equal; two angles are equal; two triangles are equal; two right angles are equal. two lines are parallel, etc.

The following classification found in Fallor's "Plane and Solid Geometry", published by the Century Company, New York, is so good that I will venture to repeat it here:

"I. Two lines are equal:

1. If they are homologous sides of equal triangles
2. If they are opposite equal angles in a triangle
3. If they are the sides of a square or rhombus
4. If they are the opposite sides of a parallelogram

II. Two angles are equal:

1. If they are the complements or supplements of equal angles
2. If they are vertical angles
3. If they are alternate interior or corresponding angles of parallel lines
4. If they are homologous angles of equal triangles
5. If they are opposite equal sides in a triangle
6. If they are the opposite angles of a parallelogram

III. Two triangles are equal:

1. If two sides and the included angle of one are equal respectively to two sides and the included angle of the other
2. If two angles and the included side are equal respectively to two angles and the included side of the other.
3. If the three sides of one are equal respectively to the three sides of the other

IV. Two right triangles are equal:

1. If their legs are equal, each to each
2. If the hypotenuse and an acute angle of one are equal respectively to the hypotenuse and an acute angle of the other
3. If a leg and an acute angle of the one are equal respectively to a leg and the homologous acute angle of the other
4. If the hypotenuse and a leg of one are equal respectively to the hypotenuse and a leg of the other

V. Two lines are parallel:

1. If they are perpendicular to the same straight line
2. If they are parallel to a third straight line

3. If they are cut by a transversal making
 - (a) the alternate interior angles equal;
 - (b) the corresponding angles equal;
 - (c) the alternate exterior angles equal;
 - (d) the interior angles on the same side of the transversal supplementary
 4. If they are the opposite sides of a parallelogram
 5. If they are the bases of a trapezoid
- VI. A quadrilateral is a parallelogram:
1. If the opposite sides are parallel
 2. If the opposite sides are equal
 3. If two sides are equal and parallel."

In dealing with exercises, the same general directions will hold as with theorems. Draw general figures. Draw them accurately. A clue to the proof is frequently suggested by an accurate figure, while an inaccurate figure frequently leads into errors. Fix clearly in mind the given and the precise thing or things to be proved.

In the proof be sure to use every condition of the hypothesis. These conditions are all needed, or they would not be there. Build up the plan of the proof by reasoning backwards from the conclusion until some known truth is reached; then reverse the order of your steps, and the proof will come without very much effort.

In choosing exercises in application of theorems, if we can find genuine applications that are within reasonable grasp of the pupils, by all means let us use them, but let us not go far afield from their experiences in practical applications. Let us not destroy the dignity of Geometry by making our pupils think that Geometry measures things in a way that no one ever has used or ever will use.

When we have tried repeatedly and in various ways to send a truth home, we are again reminded of the fact, "There is no royal road to Geometry," nor to the teaching of it to immature high school pupils.

Dr. Helen C. Putnam took a few minutes to urge that we encourage among pupils sanitary habits which will help prevent disease.

In the afternoon, Dr. Taylor presented the following report of the Nominating Committee:

Member of Executive Committee to serve three years

Miss Jessie Brackensieck, Quincy

Member of Executive Committee to serve two years

H. O. Barnes, Springfield

Secretary, Miss Bess F. Cline, Urbana

A motion was made and carried to adopt the report of the committee and elect accordingly.

Mr. L. C. Irwin, Joliet, Illinois, gave the following ten-minute paper on "How Can Mathematics Be Taught So as to Aid in the Civic and Social Welfare of Our Country?"

As I first read this subject, and as I further studied it, I could not help but ask myself, "How can mathematics do anything else but aid in the social and civic welfare of our country?" Then it occurred to me that mathematics was not the word to be emphasized, but "how should it be taught" was the vital question. Most of the criticisms directed toward our subject have been brought against us justly because of the poor teaching of the subject. Al-

gebra and even geometry used to be considered fool proof and class these subjects were used to complete a Latin or English teacher's preparation. Today school officials are beginning to realize that one must specialize the subject he is teaching and also be broad enough to make the subject real to the pupil. To teach the mathematics needed today, a teacher must be thoroughly prepared in his own subject, be a good English scholar, because mathematical language is so exacting, must be able to reason logically, must have a store-house of knowledge in subjects real to the pupil, such as manual training, drawing, physics. How can you teach a pupil to become an engineer unless you know something of the needs of an engineer? Can you show him the practical uses of mathematics unless you know something of the real uses of mathematics as found in a boy's experience in a shop or laboratory? Can you show him how a carpenter uses his knowledge of a right triangle, in the uses of his square, unless you know what a square is? How can you vitalize the subject for the girl unless you can bring problems in designing, in cutting, and in food values?

Today the people of this great nation are beginning to slowly but faintly realize their first lesson in economy; before another year, whether war continues or not, the study of economy will of necessity have become a practice. The study of mathematics, if properly taught, will have to do with this phase of our country's life.

Conservation of time, of men, of foods is the one big problem facing us now. Shall we attempt to conserve recklessly or shall we learn to conserve scientifically and mathematically so that the conservation in one place will not mean a greater waste in another?

The war is not going to be won by greater numbers of men, it is going to be won by greater quantities of ammunition, but it will be won much through conservation and science. Mathematics and science will play a great part in the final victory and will play a still greater part in the life to follow the war.

The man in the trench, the man behind the gun is a very important factor, but he becomes helpless unless the man behind the man behind the gun, the engineer, the aviator, the manufacturer, the farmer does his part. We must conserve wheat, sugar, meats, coal, but at the same time we must conserve health by giving the body the necessary substitutes in food. This is a mathematical problem for the boy, girl, man and woman. Knowledge of food values, the ability to read graphs is essential to these substitutions wisely. The study of the use of foods, the food required by the body, and the food units contained in the different products will lead to a balanced ration, conservation of foods, and to better health.

The ability to read the electric meter, the gas meter, the water meter, the ability to estimate the necessary use of gas and electricity will help to eliminate the chances of waste.

By knowing the number of lights used, the size of the lights, the cost of each is burned, the local weight per kilowatt, a boy or girl may be able to estimate very closely what the light bill should be.

Teach the boy and girl to make change as the business world changes. One week recently I was short changed nine times.

Teach the boy and girl how local and state taxes are estimated, different kinds of fire insurance and life insurance, the benefits of a savings account, how to figure lumber, painting, etc. so that he may be able to find his place among the citizens of a community.

Teach the student to estimate mathematically, to use his eyes. For example, one of our breakfast foods is put up in ten cent packages and twenty-five cent packages. The average person would buy the twenty-five cent package because he expects three times as much for a quarter of ten cents, but in reality, by figuring cubic contents, there is two and one-half times as much in the ten cent package.

times as much in the twenty-five cent package as there is in the ten cent package.

After the war the larger part of the civilized world will have to be reconstructed. Industrial plants, bridges, railroads, which are now being overworked, are going to rack even if they escape destruction. America is just beginning to feel the strain. When the war broke out practically all the engineering schools abroad shut down and since the beginning of the war engineers have been slaughtered wholesale in Europe. This country will not only have to keep up our own industries and plants but will have to undertake the stupendous task of rebuilding the old world.

President Wilson, in response to a direct inquiry as to what he considered the patriotic duty of educational institutions and of young men not subject to draft, replied emphatically, to conserve and increase the supply of highly trained men, to urge colleges and technical schools to maintain their courses as far as possible on the usual basis that students not entering the service may prepare themselves for valuable service to the nation, and to urge the young people in our high schools to avail themselves of the opportunities offered by our schools that the country may not lack an adequate supply of trained men and women.

However, the greatest aid our subject can give and always has given is indirect and as such very important. In order to be a useful and intelligent citizen one must recognize a problem when it comes, analyze this problem as how best to attack it, outline the best approach and arrive at a definite and final conclusion..

Arithmetic teaches one to materialize; algebra, to generalize; geometry, to analyze and systematize; while our higher mathematics enable one to realize;—i. e., the clerk or workman thinks in terms of figures, he thinks materially; the office man, the manager, the foreman must generalize a specific problem so as to fit any and all cases in his office or on his force; the corporation president, the sales-manager must know his problem, analyze it, and solve it; while the constructing engineer, the mechanical engineer must realize the best, most economic, safest plan, material, design that is possible. He not only generalizes and analyzes but must arrive at a concrete realization of his problem.

President Hadley of Yale says, "only 8 per cent previous to 17 years indicate inclinations toward any vocation." Accordingly, it is unwise to specialize our mathematics below the eleventh or twelfth grade.

Efficiency or success is common sense applied, the best, easiest, quickest way to a goal. It requires ability to think and deal in fundamentals, to formulate our methods, to look at things from the right angle, correct mental attitude, to have ideas to plan systematically, and to record our progress in business and in life graphically. If we see our work and plan for it the work is 51 per cent done.

A recent bulletin of the United States Bureau of Education by J. C. Brown says: "European school men believe that a course in mathematics should be planned by those who know mathematics rather than by educators who are practically ignorant of the subject."

We can no more commercialize mathematics than we can commercialize social and civic problems. We can but humanize them by means of a human teacher. Just as the Hull House is no bigger than Jane Addams, so our mathematics will be no broader than the teacher. The Creator must of necessity be greater than the thing created, so the teacher of mathematics must be greater in knowledge and experience than the student.

To teach reasoning, the teacher must be able to reason; to teach accuracy, the teacher must be accurate; to obtain neatness, the teacher must be neat; to secure system, the teacher must be systematic; to gain the confidence of the pupil in his own conclusion, the teacher must have confidence in himself.

How can mathematics be taught so as to aid in the social and welfare of our country? To answer this question, "taught" is the on word to study. The teacher must be broader than his subject; he have more experience and knowledge than his pupil; he must be he must have a storehouse of real illustrations; he must teach so as to the admiration and confidence of his pupils for his subject because teacher's personality radiates these qualities.

The subject must be so taught that the pupil will learn to cons so he may be able to calculate and estimate for himself that he may his place as a useful citizen in his own community.

He must be taught to recognize a problem when he meets one; he know the hypothesis,—that is, the material he has to work on; he analyze it, how to arrive, in the shortest and best way, at a conclusion he knows is correct. In short, he must be able to do his bit in the reh tating of the world now being swept by this all consuming conflagration

The united opinion of our most far-sighted leaders, such as Pres Wilson, Secretary of War Baker, United States Commissioner of Educ Claxton, President Armour of Armour & Company, Lyman Abbott, E of the Outlook, and others; men who have access to information that ca now be made public, is that America's entry into the World War give young man and young woman of today a wonderful opportunity "to go the top" out of the old rut into a bigger, better paid, and more useful

Charles M. Schwab says, "Nothing is so plentiful in America as o tunity. There are more jobs for forceful men than there are forceful to fill them." He also says, "The man who has done his best has everything."

My country is calling every citizen to do his bit by doing his bes is my professional and patriotic duty to do my share in guiding the dev ment of my subject, not by sacrificing the boys and girls, but by giving the best training that we can give them that they may meet the gre burdens and biggest problems of reconstruction that any generation been called upon to face."

Then followed a discussion of the papers given in the morni

Mr. Rugg and Mr. Clark were commended for their exce work and a motion was made and carried to continue the comm until next year.

Mr. Davis, of the Parker High School, Chicago, said he found the Rugg-Clark practice sheets helpful in detecting pr who needed assistance; and in obtaining a proper balance of formal and routine.

The fact was emphasized that we must teach pupils *to t* and that more mental arithmetic would be a great help.

Mr. H. O. Rugg asks to borrow any old mathematics Text-B of the period 1845-1875, promising that the same will be retur he also asks for letters from the teachers telling how the tests going on in their work.

The questions were raised as to whether the tests were t given more than once (*answer*—3-5 drills on each operation); whe the same tests were to be given over and over (*answer*—begir different places on the cards to vary the test); whether or not lei ing the drill in different processes were not different from apply

it—attention must be called to that operation when it recurs. (*answer*—Yes. First essential is a general Introduction, then the ability to keep an attitude toward two things at a time. A problem to be worked out, is that of a method by which new teachers may bring children up to know that there are two things to be kept in mind at the same time.)

Dr. H. L. Rietz, University of Illinois, brought out that factoring depended upon the purpose in factoring in that specific problem and might be different at different times. The test might well state "Find 2 factors"; "Find Integral factors", etc.

Mr. L. S. Jones, of Oak Park, gave a paper on "The Junior High School Mathematics of the Seventh and Eighth Grades". The paper follows:

Whether we are interested in the Junior High School specifically or not, the topic of mathematics for the 7th, 8th and 9th grades, is of vital importance to pupil and teacher. I purpose, therefore, in the time allotted to me, bringing to your attention briefly the aims of the new arrangement, the place of our subject and the methods which appear to me to be of importance.

The field of secondary education has been growing so rapidly during the past thirty years that the famous Committee of Ten in 1892 found considerable trouble in making out their high school program. "We are perfectly aware", they said, "that it is impossible to make a secondary program limited to a period of four years and founded on the present elementary school subjects and methods. In the opinion of the committee several subjects now reserved for the high school such as algebra, geometry, natural science, and foreign languages should be begun earlier than now, and therefore in the elementary school; or as an alternative, the secondary school should begin two years earlier than at present, leaving six years, instead of eight for the elementary period."

The proceedings of the N. E. A. from that time to the present have contained discussions of this general subject as well as reports of committees having to do with special phases of it. A good example of the latter is the final report of the National Committee of Fifteen on Geometry Syllabus (1912). The outgrowth of all this thought has eventuated in the Junior-Senior High School idea.

It purposes (1) to continue through its instructional program the aim of education in a democracy. (2) To give the pupil an opportunity under systematic educational guidance, to discover his aims, and to determine what his own dominant interests, capacities, and limitations are. (3) Having realized in some measure the second aim, the Junior high school should give the pupil such instruction as to subjects and courses as it can effectively provide in harmony with his own interests and future prospects.¹

The four major advantages for the organization may be summed up as follows:

- (1) The plan provides better for individual differences.
- (2) The plan makes transition from the grades to the high school easier.
- (3) The plan decreases elimination.
- (4) The plan furnishes an opportunity for various reforms in instruction.

Now, we understand, of course, this plan does not mean dropping abstract algebra or demonstrative geometry into the seventh and eighth grades, this has been tried with disastrous results, but rather the exposure of pupils

¹N. E. A. Report 1916.

to these subjects in an informal way during these two years so that transition to the ninth grade may be natural and thereby a time saver. A half year is saved in algebra and in some localities a year in mathematics by eliminating arithmetical abstractions. We know that of the time given to the present 7th and 8th grade subjects much is review. A grammar school principal recently told me that she found one and one-half years beyond the 6th grade was all the time required for arithmetic. Doubtless this is all her pupils can do with the meager equipment for attacking arithmetical problems.

In grades seven and eight, the time now given to arithmetic is about equally divided between percentage and mensuration and in the larger number of schools of this state in that order. This is not due to the fact that the arrangement is psychological, but that it is a convenient administrative device. The result, we high school teachers know. And, by the way, I am not one of those high school teachers who says, "I don't care what arithmetic they have been taught or whether they have been taught any of it." It is of much importance to me and to several of my colleagues to whom I sent the following questions:

- (1) What is the real weakness of our Freshmen in a mathematical way?
- (2) What would you suggest as a remedy, that is, as to changes or emphasis in the present 7th and 8th grade?
- (3) During these two years do you approve of the topic treatment? Has the fusion treatment any advantages or disadvantages?
- (4) Would your answers to the above questions be altered in any way if the teachers of the above grades were specialists, that is, taught mathematics and nothing else?

The answers to question one are practically unanimous as to three points; inaccuracy in four fundamental operations; lack of mathematical vocabulary; a decided weakness in formation of simplest form of relation.

The following suggestions were offered in answers to question (2): drill with Courtis or Studebaker tests to secure greater accuracy and speed in the fundamental operations; have all problem solving done in equation form; strict accountability for the work to be brought about by departmentalizing the work; no introduction to algebra as such.

Typical answers to the third question follow: "mensuration is better than so called geometry. The geometry when attempted at present unfits the pupil for studying geometry later;" "I do approve of the topic treatment. Some of the useful principles of geometry should be taught but it should not be called geometry. The equation should be introduced but I would not call it algebra;" "a disadvantage is that it takes time which should be used in making the pupil strong in the processes of arithmetic."

The answers to question four follow: "If specialists were doing the teaching I believe that the fusion treatment would bring a vast improvement in the mathematical equipment of our grade pupils;" "an expert might more easily get the pupils to do the practical without injury to reason;" "no; not much."

My interpretation of the above leads me to think that those high school teachers wish a change more in the method of treatment of arithmetical material than in any decided change in the subject matter. With this point of view I am strongly in sympathy. Arithmetic is doubtless more widely used than any other form of mathematics and will doubtless continue to be. As to the material that might be used there is plenty to last our pupils through the 7th and 8th grades. The great trouble as I see it, is that much of the material such as facts of commercial arithmetic and involved problems in mensuration is of such a nature as to be beyond the comprehension of our pupils with the tools he has at his command. A compromise might be worked out which would not only better fit the pupil for his part in the world's work but lay the foundation at the same time for future work in the

gh school. But, attention will be drawn to this phase of the subject a little later.

What advantage have the junior high schools already organized taken of the opportunity to reorganize their 7th and 8th grade mathematics? I will attempt to show you by means of a questionnaire to which Mr. Newell of Evanston gave me access and also by a few letters I have received from schools which are taking some real advantage of their opportunity.

The following questions were sent out by Mr. Newell to forty-five selected cities taken from the Briggs list.

I What text-books are used in the years corresponding to the following grades of the grammar school: 7th grade, 8th grade, 9th grade.

II Amount of subject matter covered? 7th grade, 8th grade, 9th grade.

III In what respect has the junior high school changed the subject matter?

IV What changes, in your estimation, are to come?

A study of the above survey brings out several interesting facts in regard to mathematics in the junior high school. The replies to the first and second questions show that with one exception arithmetic is the favored subject and the texts used are those which deal primarily with percentage, interest, mensuration, and involution. The eighth grades show a breaking away from the arithmetic toward composite mathematics, while the ninth grades offered algebra, business arithmetic, geometry or a continuation of composite mathematics. In some schools certain topics of the old arithmetics have doubtless been omitted so that pupils of the ninth grade complete their algebra and begin the study of the latter subjects earlier than heretofore. On the whole, the conclusion is forced that very little has been done from an educational view point to better previous courses. The seeming reluctance to break away from the traditional courses in arithmetic is doubtless due in part to the fact that it is intimately related to every commercial and industrial interest.

In answer to question III, "In what respect has the junior high school changed the subject matter?" We have these replies: None; none, as yet; have introduced fusion forms; have introduced more logically arranged courses; general mathematics for traditional algebra and geometry; lessened amount of time by one semester; cut down useless topics; introduced algebra as an elective. It is only fair to state that four of the six who answered at no change had taken place gave as their reason the state text-book law.

In answer to question IV; "What changes, in your estimation, are to come?" We note first that only one replied, "not any;" other replies follow: a composite mathematics course; more practical courses in general mathematics; socialization of all courses is inevitable; commercial and vocational arithmetic will be emphasized; three semesters to cover algebra through quadratics; practical courses in arithmetic and business methods; swinging back to a little more time.

Letters I have from Los Angeles and Rochester show algebra is given half year in the 8th grade, while a reply from Trenton shows no radical change in the course but states that their mathematics is being worked over and the equation introduced in grade 7. I cite these particular cities as they are among the most progressive junior high school advocates in the nation.

Such answers show the trend of mathematics for these grades to be toward (1) the composite type; (2) omission of obsolete material; (3) making the subject meaningful through its aid in interpreting the world around the pupils.

Keeping these answers in mind we will attempt to point out how this subject will function in the lives of these pupils and follow this with what we conceive such a course to be.

This course will function as a means of generalizing arithmetical processes. Laws of areas, volumes, perimeters, percentage, interest and forces

are simplified and given fuller interpretation by the use of the equation. The boy or girl who is forced to leave school at the end of his junior high school course and enter the shop or counting house will have at his command the ability to interpret and apply his mathematical knowledge intelligently to the literature dealing with the processes involved in his special line. (3) The fortunate one who goes on to the senior high school will have a familiarity with the direct method of attacking his higher mathematical or science, if in the academic course, or formulas which underlie the course in the industrial, household arts and commercial departments. (4) As man or woman of the world outside the school he will be enabled to interpret human experience as it appears in all our daily papers and current magazines. (5) And lastly, but not least, as a means of enjoyment. A recent experiment conducted in three large high schools, University, Hyde Park and Oak Park, showed that of all students expressing a degree of enjoyment from their studies, 90%, 91.7% and 88.6%, respectively liked mathematics "very much" or "a little."

Instruction in the junior high school must necessarily begin where the sixth grade ends. The power developed by the pupils in the same system schools and in the various cities will vary greatly. So our foundation must be seriously considered in any particular locality. But for the sake of starting point we will set up certain standards which we believe, in the main, may be reached by the majority of our schools. The pupils should have mastered the four fundamentals in the use of whole numbers, and in fractions, common and decimal. They should be able to read and write readily integers and decimals to six places; work with ease and accuracy in two step problems in the fundamental processes and in one step problems common and decimal fractions. "It is desirable, but not essential that the student should have a working knowledge of percentage and of its simple applications to profit and loss, taxes, and interest." (Spaulding) They should be able to measure up to the standard set by Courtis as follows:

Standard Scores, Courtis Arithmetical Tests						
Test No.	Add.		Sub.		Mul.	
	1		2		3	
Grade 6	50		38		37	
Speed : Reasoning			Fundamentals		Reasoning	
	Ats.	Rts.	Ats.	Rts.	Ats.	Rts.
	4.8	3.6	11.0	6.7	3.4	1.4

As you will note the above has placed the emphasis on the mechanical of arithmetic and rightly so.

In the mathematics of the junior high school the pupil must accustom himself to the standards of the business world. Teachers when not backed by the administration are likely to fail at this point. Now, when the nation is taking itself most seriously, is the time to check up on habit. The pupil must be shown one or several methods of checking up their results and insistence that they do so more rigidly adhered to than in the past.

Common sense methods, especially in multiplication and division should prevail. That is, children should be taught to estimate the result before solving the problem. Problems should be chosen from fields which are at least, fairly familiar to the group as a whole. A great deal of the dissatisfaction of pupils and parents of the 7th and 8th grade children in our subject has been justified by our assigning of problems coming from impossible conditions and those which are a mere collection of words used to make some process necessary. Problems of the business world are large, direct and easy and this type should be drilled upon until there is mastery on the child's part. Involved examples cause so many failures in the pupil's grammar school life that they soon lose confidence in their ability to handle any arithmetical computations.

The equation I am sure should be given an early place in this proposed course. We find it naturally occurring in elementary statements of numbers.

facts; formulas for percentage and interest; ratio; scientific facts; and in many general problems upon which the children have been using the analytic method. By its use many mathematical solutions are made simple.

The types of equations first used, I think, should be those requiring the multiplication and division axioms. Of course these should be treated informally. Much reasoning and mechanical good in a mathematical way will come from this work if the teacher insists on the steps in the solution being pointed out and the result checked. Computing areas of the square, rectangle, parallelogram, triangle, trapezoid and circle is work which can be easily understood by pupils of the 7th grade.

If the pupil is provided with a protractor and ruler, he can be taught now to construct and measure with care the various figures under consideration, and from these two activities develop a rule for their areas and express this as a formula. Now he is ready to use his equation in attacking his future problems of this type which have to do with the home and the school. Part of the 8th year work can next be devoted to the use of a compass and ruler for constructing perpendiculars, angles, and bisectors; this knowledge to be applied in the grouping and studying of the various plane figures.

Another topic which seems to me might well find a place here, on account of its future value to the person in or out of school, is the graph. In the seventh grade such data as temperature, attendance in the room, varying prices of staple products, percent of assignment of written problems worked correctly from day to day, family expenditures and other simple graphs could be used to advantage. Later, in the next grade, the idea of correspondence, or function, and the idea of positive and negative numbers could be introduced. I know of no simpler method to introduce these important ideas of mathematics.

The course now as I conceive it should be arranged from a psychological rather than a logical standpoint. There are certain phases of percentage and mensuration which may well be put off from the seventh to the eighth, and indeed, to the ninth year. The child's mind matures with experience and this thought should serve as a check on our distribution of material during the three years involved.

Another thought appeals to me here, and that is, we have been spending too much time on routine drill and previous work. The pupil to get the most out of his work must at times be driven to do tasks disagreeable to him but he will need less of this if we enrich and organize his mathematics so that he can appreciate it and enjoy it as he goes along.

The course I submit to you may not meet all these requirements, nevertheless the changes suggested appear to me as worthy of your consideration and discussion.

PROPOSED OUTLINE

VII Grade.

- I. Review of fundamental processes of arithmetic learned in first six grades.
- II. Introduce aliquot parts in connection with review of fractions. Children to make a table containing the decimals most frequently found in business and their fractional equivalents. This chart to be drilled on until it is thoroughly learned.
- III. Review denominate numbers and apply them to problems of the home and business life of the community. Aliquot parts should be again used in this connection.
- IV. Measurement and drawing to scale of plane rectilinear figures and circles; simple graphs.
- V. From the above diagrams rules for their areas should be developed and formulas introduced and used at once. (Introduce mechanical process of sq. rt.)

- VI. Percentage, with its application to single discount, profit and loss, and commission. Two formulas introduced and used. BR equals P ,

$$\frac{P}{B}$$
and $\frac{P}{B}$ equals R .
- VII. Interest, 60 day method. Problems in saving and loaning and borrowing money, as well as a study of business forms should come at this time.

VIII Grade

- I. Review of mensuration, percentage and interest. This work to be done now not only on account of its practical significance but as an introduction to a more extensive use of the equation and literal number.
 - II. Accurate construction and classification of plane figures.
 - III. Problems of area, perimeter and similarity as well as volume. (Teach sq. rt. by geometrical method.)

$$\frac{P}{R}$$
 - IV. Percentage — equals B . Application to successive discounts, commission, taxes and insurance.
 - V. Interest, all formulas.
 - VI. Review of graph with its application to statistics. Also to temperature, longitude and latitude, leading to the use of the negative number.
- It will be realized that an attempt has been made in this two year course to reach down into the lower grades and up into the last year of the junior high school in such a way as to keep the child conscious of the connection between his previous work in Mathematics and that which follows. It has constantly been our desire to arrange a course in mathematics rather than one about mathematics; a course which every child could be made to feel was a living, practical tool to help in the solution of his daily affairs.

Mr. E. H. Taylor, Normal School, Charleston, gave a paper on "Mathematics in the Third Year of the Junior High School".

To make a proper choice of material for the course in mathematics in the third year of the junior high school, which is the ninth school year, it is necessary to know the content of the courses in the seventh and eighth years and also the tenth. To make clear some of the reasons for the choice of materials for the ninth year I have outlined the courses that it seems to me should be given in the seventh and eighth years, and more briefly, courses for the senior high school. I have not forgotten that it is the ninth year's work that was assigned to me for discussion, and shall refer to the outlines for the other years only to show the relation of the ninth year's work to what precedes and to what follows it.

The courses outlined here for the seventh and eighth years depart widely from the present conventional courses, and it has seemed necessary to outline them in more detail than the courses for the following years which differ in organization but not greatly in content from courses with which we are all familiar.

SEVENTH YEAR

1. Review and extension of problem interpretation.
2. Drill for accuracy and speed in the fundamental operations with integers.
3. Introduction to the formula.
 The making of and substitution in such formulas as
 The cost formula $S = np$.

The rate time and distance formula, $d = rt$.

The formula for the area of a rectangle, $A = ab$.

The volume formula, $V = lwh$.

Review of common and decimal fractions. Use of fractions in formulas. Percentage. Formulas. Applications: Profit and Loss; Commercial Discount; Simple Interest; Promissory Notes.

Applied problems. Classified problems about the farm, dairy and food.

Measurement of lines: Sum and difference of lines. Degree of accuracy in measuring. Drawing to scale. Graphs. Circles, $c = \pi d$.

Angles. Kinds. Measurement. Sum and difference. Circular and angular measure. Longitude and time. Standard time.

Triangles. Kinds. Certain important properties.

Constructions with ruler and compasses. The simpler constructions, as perpendicular bisector. Simple geometric designs.

Parallel lines.

Quadrilaterals, certain properties.

Regular polygons, sum of the angles.

Areas: Rectangle, triangle, parallelogram, trapezoid, circle.

Applied problems.

EIGHTH YEAR

Use of letters to shorten statements. Rules changed to formulas and the converse. Substitution in formulas.

Addition and subtraction of simple literal expressions.

Solution of simple equations. Problems.

Multiplication and division, not including multiplication and division by polynomial.

Solution of formulas for different letters involved.

Negative numbers.

Square root and the Pythagorean theorem.

Metric system.

Ratio, proportion and similar figures. Properties of similar figures.

Problems. Drawing to scale. Specific gravity.

Volumes and surfaces of solids. Parallelopiped. Prism. Cylinder, Pyramid. Cone. Sphere. Construct models of these solids.

Classified applied problems.

Business arithmetic. Commission. Taxes. Insurance. Banks and Banking. Bank discount. Exchange. Stock and bonds.

NINTH YEAR

First Half—Algebra

Review of fundamental operations, use of formulas, and simple equations.

Types products and factoring. Fractions.

Simple equations in one and two unknowns. Graphs.

Second Half—Geometry

Properties of triangles.

Parallel lines and parallelograms.

The Circle.

Areas.

TENTH YEAR

First Half

Geometry: Ratio, proportion and similar figures. Solid geometry.

Second Half

Algebra: Quadratics and beyond.

Some experience shows that the courses outlined for the seventh and eighth grades are practicable. The greater part of this work was given last year in the seventh and eighth grades of the Elementary School of the Eastern State Normal School at Charleston, and the courses in practically the form outlined here are being given there this year. I shall assume that students entering the third year of the junior high school have completed such a course as this.

This means that at the end of the eighth year the classes shall have studied in algebra the four fundamental operations with positive and negative numbers, the making and use of formulas, and the solution of simple equations in one unknown; and in geometry some of the properties of lines, angles, polygons and circles, similar figures, the simpler constructions with ruler and compasses, and the computation of areas and volumes.

Pupils who complete such a course will at the end of the eighth year be one year ahead of those who follow our present courses. The question at once arises, shall this gain in the seventh and eighth years be used to save time for the high school student in completing the required mathematics, or shall it be used along with two more years of required mathematics to teach more mathematics?

My present opinion is that the work outlined here for the seventh, eighth and ninth years should be required of all high school students, and that mathematics after the ninth year should be elective.

I am clear that mathematics should be required to the end of the ninth year, and I think that mathematics teachers will generally agree. Not all will agree that the remainder of the work should be elective.

I believe that the student who completes the course outlined here for the seventh, eighth and ninth years will get as good a mastery of algebra as is now obtained by one year's study of algebra in the ninth year. The course here outlined includes the topics that are now studied in first-year algebra, but gives less attention to formal work than is now given, especially in factoring and fractions, but gives more attention to formulas and substitution. Many teachers think factoring is too prominent in our present course and would be glad to give less time to it. In my opinion the most serious criticism of our present required course in algebra is that it does not extend over a sufficiently long period. It is taken in one lump in one year and scarcely referred to after that. In the course outlined in this paper algebra is studied and some use made of it for three years. Such a course will, I believe, fix much better than is done at present the fundamental parts of elementary algebra, because of more frequent reviews and because more use is made of the algebra.

The geometry outlined here covers the facts of plane geometry now given in the tenth year. Certain parts of plane geometry not in this outline for the second half of the tenth year, as ratio, proportion and similar figures are studied in the seventh and eighth years.

In the course here outlined there is less time to given to formal demonstration than in the present course. However, the students come to demonstrational geometry with considerable experience with geometric forms, with the use of ruler, compasses and protractor, and with a considerable body of geometric facts. The question then is, with this background can as good a mastery of the nature and the methods of geometric proof be gained in one-half year as in the present course? I have no experience upon which to base a judgment. Whatever the answer to that question is, it is my guess that a student who completes the course here outlined will have a better assimilated knowledge of geometric facts, and more ability to apply this knowledge, than one who has completed the one-year course in geometry as it is now given.

I think it is possible to organize a half-year's work in geometry that will have unity. The school texts contain about the same amount of material. In certain texts this is divided into about 130 theorems, including constructions. From these there may be selected about 55 theorems, plus 10 constructions already studied in the seventh grade, that will contain the most important parts of the present one-year's course in plane geometry, except ratio, proportion and similar figures which may be postponed until the tenth year. This list of 65 theorems includes theorems concerning intersecting lines, triangles, parallel lines and parallelograms, con-

actions, areas and certain others not easily classified. A well-connected course can be made of this set of theorems.

In making an outline of the work of the ninth year, the last year of the junior high school, special consideration should be given to the needs of the students who will leave at the end of this year. A course combining the most important facts of elementary algebra and of elementary geometry is more valuable for them than a year's course in elementary algebra, it seems to me.

The required work in mathematics should give students as good an opportunity as possible to see what mathematics is like, especially those students who are to go on and finish the senior high school. Many of them should elect some courses in mathematics. The number electing will depend on the interest aroused by the required courses. These required courses should be planned so as to test as well as possible students' ability and liking for mathematics. I think that this can be done best in the combined course in the ninth year.

Such a course in mathematics as the one suggested in this paper can be a success unless it is taught by a teacher of mathematics, that is, an individual who can teach and who knows something of mathematics, at least something of elementary algebra and geometry. Such a course given by a skillful teacher but who lacks knowledge of mathematics, or one who has sufficient mathematical knowledge but who lacks skill and experience in teaching, is likely to be a failure. One of the most serious problems in the reorganization and administration of the junior high school curriculum is the securing of a properly trained corps of teachers.

In the discussion which followed Mr. Scott, of Springfield Junior High School, thought putting down Algebra and Geometry would crowd out efficiency in Arithmetic; that the present correlation of Arithmetic, Algebra, and Geometry is unsatisfactory.

The question was raised, "Why Should Solid Geometry Precede Quadratics?" The suggestion was offered that the condition was probably due to the fact that only one year of mathematics will be required in such a curriculum.

A vote was called for upon the question, "How many would include demonstrative geometry, if only one year of mathematics as required?" Yes, 43; No, 1. Yes in majority.

Other suggestions were to the effect that the pupils might be grouped according to interest and ability and the best allowed to take Algebra; teachers in the higher grades do not want the work muddled up"; will the colleges and universities accept such a unit for credit?

A suggestion was made that the program next year include a paper on Algebra III.

After the conclusion of the discussion, the Section adjourned.

BESS F. CLINE, Secretary.

MODERN LANGUAGE SECTION

The Romance Language group of the Modern Language Section met in Room 306, Lincoln Hall, Friday morning, November 23, 1917,

Professor McKenzie acting as chairman. After the election of a secretary the regular work of the session began. Mrs. H. Seris read a report on the Syllabus of Minima in Spanish for the New York City High Schools, the work of a committee of five teachers, each one at the head of the Spanish department in a New York High School. In this year of 1917-18, 17,000 pupils from the total of 84,000 in the 24 High schools of New York City, are enrolled in Spanish which places the enrollment of this department ahead of both French and German. The Syllabus gives a detailed account of the work required during eight terms of Spanish. Following this report Dr. J. D. Fitz-Gerald, University of Illinois, summarized the College Entrance Examination Board's Program for Elementary Spanish and also the syllabi of the National Education Association and the Association of Romanic Language Teachers of California. In comparing the syllabi of these three with the New York Syllabus, they were found to be almost identical in their reading requirements.

Mr. McKenzie stated that both the Association of Modern Language Teachers of the Central West and South, and the Modern Language Association of America were working on this same problem.

Dr. Fitz-Gerald asked if any of those present would adopt one of these syllabi. Miss O'Connell said she would use the New York program.

A discussion then arose concerning the amount of reading material as given by the New York Syllabus, 65 pages in the first year and 80 in the second. Most of those present agreed that these figures were enough for the minimum and should be increased as the teacher saw the opportunity.

The rest of the session was spent in the reading of A Syllabus for Course in First Year French by Josephine Doniat of the Carl Schurz High School in Chicago. Suggestions for changes and corrections were made. At Professor Carnahan's suggestion a vote was taken in regard to terminology of the tenses.

There was a unanimous preference for the old terminology.

A motion was made by Professor Oliver, which was seconded and carried, to extend a vote of appreciation to Miss Doniat and her committee for their work on the French syllabus, after which the meeting was adjourned.

In the German group the program opened with a summary of Reports on a Year's Test of the Proposed Course of Study for the First Year in German, presented by Henry G. Vorsheim, of Chicago. The summary is here given:

In reporting on a year's test of the proposed Course of Study for the first in German, with suggestions for further revision in Reading I would like to state that we found the course as outlined quite satisfactory as meeting nearly all our demands.

"Reading" is and should be the basis of all study, especially with reference to grammar and composition, in any language. I would like to suggest, though that a reader be used sooner than the middle of the first year, perhaps after two months work.

In the beginning classes we found it to be of advantage to let the pupils read a simple anecdote or short story, like "Die Frau in der Kirche," or "George Washington und der Kirschbaum." Afterward questions are asked on the text and answered by the pupils in different ways. One form was that the first pupil would ask the first question and appoint some one in class to answer it. Then this second pupil, after answering it, would put the next question to some one, and so forth. The pupils like this work; it is interesting to them and because it is, they will often even interest the folks at home with the anecdote.

After this a few lessons in the Grammar are taken up, and the pupils are given the first necessary information in the language. Perhaps we tell them another story or two, always in simple words, and illustrate new words with actions and gestures. Suitable stories are Wm. Busch's "Max und Moritz," or "Der Engländer und der Deutsche." By this time we find the pupils ready to use a reader. The question "which reader" is important. We have used this fall:

Guerber's *Märchen und Erzählungen*, part 1,
Foster's *Geschichten und Märchen*,
Altes und Neues, Seligmann,
Gronow's *Jung Deutschland*,
Allyn & Bacon's *Vorwärts*,
Allen's *Daheim*,
Spanhoofd's *1 Lesebuch*, and others.

Certain other readers, used with success by many schools a few years ago, we find not advisable now, on account of certain pictures and reading material which they contain.

We are using now, and can recommend to teachers, Roessler's *1 German Reader*, Am. Book Co. This book begins in a simple, easy and practical way, and is about things that are in our immediate environment, and in our daily activities in the home and school. The reading matter is arranged progressively, a point of importance, and it does not go into mythology as some books do.

In the first year a good deal should be read. The material must not be too difficult, but interesting and instructive. Some pages, best suited, should be read intensively, some with the aim for rapid reading. I would suggest about 100 pages, one-third of these for intensive work. If the grammar, however, contains a good deal of reading matter, then perhaps 50 to 60 pages would suffice. No doubt, often students in the 1 year are required to read material that is too difficult for them. The result is that the weaker pupils lose interest in the work and become discouraged. We believe that to be a mistake. There is a great deal of simple, interesting reading material for the 1 year, without using the difficult forms of the subjunctive and the passive voice. In this way we teach more language with less grammar, make "Reading" the basis of all work from the beginning, from it develop the grammar, and on it base the composition work.

As to the "How," the outline of last year stated correctly that the first reading should be done in the best spirited fashion by the teacher, the class repeat in concert sentence by sentence, or part by part. The teacher's reading should be done quite slowly and distinctly, especially in the beginning. A hasty vocal drill on words which the class finds difficult will prepare for fluency and correctness. An opportunity to ask about difficult words or construction of the sentence should be given. If this is done for a

year or even into the second year with each day's assignment read and reviewed at least five times or more, *aloud*, greater fluency will result and less vocabulary drill will be needed. In concert reading I would suggest that mistakes be corrected only after a paragraph is read; in individual reading immediately.

As German is so largely phonetic the ability to spell in the German letters will often aid in correct pronunciation of difficult words. Drill separately ü, ö, r, ch, sch, st, j, z, final b, d, g, also note v = f; drill ei, ie, eu, au, az. Emphasize that only e (as in sie) and h at times (as, er fühlt) are not sounded. Drill the phonetic rules for forming the umlaut (ö, by saying english a with rounded lips, ü by saying english e with rounded lips).

We find that frequent dictation of two or more sentences will make for correct pronunciation, spelling, and punctuation.

We find also that memorizing of two or three sentences, perhaps twice a week, from the Reading Lesson after it has been carefully covered is a further aid. Poems are included in this. Frequent short exercises are to be preferred to long laborious ones. Often short parts of the reading may be reproduced and written on the board.

As repetition is one of the means by which we fix a language and its forms, a daily brief review of the grammar is a workable suggestion.

In the preparation of a reading lesson, as suggested, the students are asked to study the same by looking up words, notes, and so forth, after having tried reading the assignment through, and then ascertaining the meaning of words. Questions on difficult passages are called for the next day. These are disposed of by either volunteers or the teacher. Here, of course, every teacher uses his or her own methods. Then by question and answer, pictures, drawings, actions in short, every bit of expressive ingenuity of the teacher is brought in. Translation is not to be avoided in certain places where such a rendering would save time and expensive effort. We suggest also that once in a while the complete lesson be translated. Sometimes contents to be told in a few words, either German or English. The time often is short if grammar points are also explained. We have had very good success with large, especially printed charts on rollers, like map-charts in Physiography rooms, illustrating in full plurals of nouns (4 declensions, adjective declensions, prepositions with suitable forms, word order, etc.; also a large map of Germany. The charts offer the advantage that they may be pulled down in a moment, and after the point at issue is explained, will disappear again thus saving time which is so valuable.

The teacher ought sometimes to bring the "unexpected" with the reading and tell a short story in connection with it, and even act it, or surprise the class in other ways.

Books to be recommended for end of first year or beginning of second year are, Spiri's, *Moni der Geissbub*, or *Rosenreal*, two very interesting short stories, full of life and human feeling.

Miss Schmidt took the position that an extra text is not effective in the first year, and that dictation is unnecessary since oral work by teacher and class fixes the vocabulary.

Miss Olson suggested dictation of original questions on the lesson to be answered the next day as a practical method.

Mr. Korb remarked that the study of German including its script is a patriotic service and of necessity to American citizens. This in view of the fact that we must interpret messages, must know what is being said by the Germans and their sympathizers and written by them in order to know how to deal with them.

There followed a paper by Marie Bartenbach, of Monmouth, on "Grammar and Composition". The paper is here presented:

After I had rather blindly given my consent to discuss composition in first year German, Miss Olson informed me that the committee thought composition and grammar might well be combined—being so closely related.

The more I ponder,—the more I wonder about that relationship—and the question of a common family name remains quite unsolved. Shall we treat composition and grammar as *one topic* in our outline under one general heading as, perhaps,

"Practical Grammar," "Applied Grammar," or

"Composition and the principles of composition"—or whatever you please; or shall we keep them as separate topics *composition* and *grammar* as they now stand in the outline?

At times I would abolish that horrible word "grammar" entirely, pupils hate the sound of it, teachers do not love it! Why not call it composition? Of course we must have very definite principles governing composition, hence, why not call it "composition and principles of composition?" Then, again, when I come right down to rock bottom, to plain hard facts, I have to admit that these principles of composition are nothing more or less than the essentials of grammar after all. Then, why not call grammar—grammar? Why sugar coat the pill? We sugar-coat too much as it is for this day and generation.

More important than the name is the aim. Dr Judd, in his "Psychology of High School Education" says, "The aim must control the method of instruction." Perhaps an aim definitely stated at the outset of our course might be helpful in standardizing our work. Would not a definite aim suggest in a general way the "What," the "How much," and the "How" in our work?

I shall not attempt to state that aim. Right here I wish to ask a question—a question about which I have felt keenly for some time and one that is still unanswered in my mind. My question is this: Should not the aim vary with the length of the course offered? Surely, if a student intends to study German one year, or four years, the aim must necessarily be different, and fortunately or unfortunately, there are those who do desire one year of German.

Would not German be especially favorable for a comparative language study since both English and German are based on the Anglo-Saxon? Would there not be a place for such a course in our field of work rather than in the English department? Would not the teachers of German who have first hand knowledge through the language be able to handle such a course effectively? Would such a course be worth while in our department? I mention this because I am interested in the suggestion, because I know that there are those who would like to know about the language, the literature, and the people,—if they were not obliged to spend more than one year in the work. I mention this *especially* because it suggests the need of a definitely stated aim and points out what might be included in that aim.

To return to my questions: Would not the aim vary with the length of the course offered? Since the aim must control the method of instruction—would the outline of a two year course coincide with that of the first two years of a four year course? Would it be worth while to consider a separate outline for a two year course? This is a question upon which I am not decided. I should like to hear it discussed.

Not only would a general aim aid in bringing about the standardization of our work—but I believe a special aim or aims—for each year would also contribute much to that end.

Here again I shall not attempt to formulate those aims but merely keep all in mind that "reading should be the basis of all study" and especially with reference to grammar and composition" as stated in the beginning of the outline of our course. No doubt but that we all agree that reading is at the "basis of all study" but that a "reliable and fluent reading knowledge" is the end of all study—and all drill in the essentials of grammar and

composition should contribute to that end. Professor Prokosch, formerly of the Wisconsin University, now at the University of Texas, says: "Reading stands in the center of instruction." Since reading forms both the *basis* and the *end* of instruction would not therefore the standardization of the vocabulary in the Beginners' Books as suggested by Bagster Collins of Columbia University, be the first prerequisite—the first essential whether we are considering *reading*, *grammar* or *composition*? With the reading material based upon such a standardized vocabulary—every drill in grammar, every composition exercise would repeat and emphasize that same vocabulary and also contribute toward acquiring the Sprachgefühl so necessary in interpreting a language. Therefore I hold that reading and the reading material is as closely related to composition and grammar, as composition and grammar are to each other.

With the general aim of the whole course definitely stated at the outset, and with the special aims stated at the beginning of the outline for each year, the "*what*," the "*how much*" and the "*how*" for each topic reading, grammar, and composition would naturally follow. *I would suggest that perhaps composition might follow rather than precede grammar in the outline.*

If the outline is to be really helpful especially to the young and inexperienced teacher, I believe the essentials of Grammar might well be very definitely laid out under such headings as Nouns, Verbs, Pronouns and Pronominals, Adjectives, Prepositions, Conjunctions, and Word Order.

Nouns

Taking up nouns first, we have:

1. The declension of nouns—about 50 or 60 so perfectly mastered that the reaction on the part of the pupil is quite automatic. Might not a standardized list of these nouns be adopted and included as a typical list in our outline?
- a. The arrangement of cases as adopted by the Joint Committee on grammatical Nomenclature—might also be included as follows:

	Nom.	Accusative	Genitive	Dative
Sing.	(der	den	der	dem
	(die	die	der	der
	(das	das	das	dem
Pl.	die	die	der	dem

This arrangement emphasizes similarity and difference of form as well as the proper distribution of emphasis—upon the nominative and accusative which are taught first anyhow.

- b. Emphasis upon the ending "s" as the sign of the possessive in both the English and the German—feminine forms excepted—might be mentioned.
 - c. I like also to have the pupils *feel* that *m* is the distinctive feature of the *dative* singular—feminine again excepted.
- I mention rather minor points because it is just such emphasis that helps to create a *consciousness* of grammatical forms which is not so much required in the English.
2. In regard to including *classification* of nouns there may be some difference of opinion. But so far as I am concerned, I *do* teach the classification of nouns later in the year with emphasis upon a few helpful, general principles; such as,
 - (1) e and en are the only two possible plural endings for the feminine nouns.
 - (2) I like to emphasize how some nouns would sound rather unmusical if additional endings were added to form the plural—such as

the "chen" "lein" nouns, and the masculine and neuters ending in el, en, er. These are mere suggestions as to the general observations that may be made from a study of the classification of nouns—observations that, again, help to create a feeling for that which is typical of the language.

3. Perhaps a few general principles concerning gender might be included. These are to be observed incidentally and repeatedly as occasions arise: for example,
 - a. The *e* is typically a weak or feminine ending.
 - b. That *er*, *en*, *el* are typically strong, hence generally masculine endings. And there are other helpful principles and rules concerning gender.

Verbs

Taking up verbs:

1. Here too, might it not be well to include in the outline a standardized list of both weak and strong verbs—about 40 strong verbs? I believe we cannot be too definite altho I would not make the outline so rigid that it could not be adapted to any and every situation.
 - a. Distinction between weak and strong verbs is already emphasized in the outline. Here again, comparison with the English forms is helpful. I, myself, do not make any special effort at classification of strong verbs according to vowel gradation, unless it be merely to note verbs that have a similar vowel gradation.
 - b. For myself, I much prefer the following order of the principal parts of verbs: *nehmen*, *er nimmt*, *er nahm*, *er hat genommen*—the 3rd person sing. following the infinitive instead of coming at the end as suggested in the outline. It is important to emphasize the vowel change that is apt to occur in the 2nd and 3rd person singular of strong verbs where the root vowel is *a* or *e*.
 - c. In the use of *haben* and *sein* in the perfect tenses (not mentioned in our outline), it means much to have the pupils realize that *haben* is used much more extensively and especially with verbs that take an object. This is another "language habit" the student of German must cultivate, that is, to observe the nature of the verb—whether it be transitive or intransitive, whether or not it shows a change of place or condition and then he must remember to apply the general principle.
 - d. In regard to tenses,—no doubt we are all agreed upon the statement as it stands in the outline—"Emphasize all but the future perfect."
2. Prefixes are not especially mentioned in the outline. In regard to prefixes—separable and inseparable—these come in naturally quite as early as the simple present and imperfect tense forms. I have encountered no greater difficulty on the part of the pupils to learn "*Ich lege die Kreide hin*" than to learn the simple form "*Ich hole den Wischer*." Separable prefixes are typically German and make for *Sprachgefühl*, and hence should come in *naturally* and *frequently*. Those that are either separable or inseparable would not be apt to occur early—if at all in the first year.
3. The reflexives especially *with the accusative* also come early and offer no especial difficulty. Especially in the *evrb* series do we have occasion to use the reflexive; as, "*Ich setze mich*." This is again typically German. The dative form with the reflexive may be left until later or whenever it comes up.
4. The emphasis upon the polite form of the imperative as suggested in the outline is not questioned.
5. In the modals—in addition to emphasis upon the present and imperfect tense forms, I find occasion to teach also the simple uses of the double infinitive—especially with "*lassen*" as that is another form peculiarly German and is apt to occur early and frequently.

6. The simple forms of a few impersonals may be taken up the first year incidentally, if they occur in connection with expressions about the weather or in common idioms.

Pronouns and Pronominals

1. Of the pronouns—the personals occur early and are essential.
2. Possessive pronominals also occur early.
3. The interrogatives come early in the question making exercises—especially the nominative, accusative, and genitive forms—*wer, wen, wessen, was*. Here, too, may be mentioned the *wo* compound—as *wohin* legte er die Kreide?
4. Demonstratives are not mentioned in the outline. They are not especially difficult and may be taken up only incidentally, but I believe they do occur in the reading material of the first year type.
5. The use of the nominative and accusative of the relatives with an understanding of the other forms seems quite sufficient—although I have often had occasion to emphasize that *wer* cannot have an expressed antecedent. It is quite natural for the pupil to think of the English form “The man, who”—and say in the German “Der Mann, *wer*.”
6. A few common indefinites may be included—as *jemand, niemand, etwas, einiges* with but little further explanation.

Adjectives

When we come to adjectives we all agree we have a rather difficult task, hence, they are not to be taken up too early,—nor are they to be entirely ignored until late. Of course predicate adjectives can be handled in the very first reading lesson. I find no difficulty, however, in introducing *now* and then with *caution* attributive adjectives in the *nominative* and the *accusative*. Why not familiarize pupils with “*Ich hole den kleinen Wischer*”—and thus learn that the “*en*” ending of the adjective goes with the *den* form. Thru frequent usage that form and no other will sound right. In the same way *Das kleine Kind, das grosse Buch* should become so familiar that the expression is almost a *habit*. It is not necessary to wait until the first half year is over to become acquainted in a limited way with a few adjective's endings. Then later, after the general principles of adj. declension have been worked out, I believe that rapid drill and mastery of the *paradigms* is valuable—as presenting in a systematized and concentrated form all the endings in adjective declension.

Prepositions

Just as in a limited way, adjectives may be introduced along with the *the* nominative and accusative of nouns—so may the use of prepositional phrases be begun incidentally with verbs. Especially favorable for this are the *verb* series; as, *Ich gehe an den Papierkorb*. The pupils are already familiar with the expression *Ich gehe an die Tafel* where it was not necessary to point out that the accusative case should follow *an* when the verb denotes action. In the same manner and without explanation *Ich gehe in die Schule* occurs early, but we must use with caution *Ich bin in der Schule*. Thus, we observe that the prepositions governing either the dative or the accusative come naturally early. Teaching the lists as mentioned in the outline in alphabetical order and even rhythmically is a helpful suggestion. On the whole, however, most valuable is the frequent usage of the prepositional phrase in connection with the action itself. In my experience with little folks in the grades, I find that they quite unconsciously take up the correct forms of the prepositional phrases in connection with actions—after hearing the correct forms first, of course.

Conjunctions

Quite early and again very naturally do we use the common coordinating conjunction and nothing need be said concerning their effect upon word order until the subordinating conjunction comes up. Then, of course, the distinction must be made clear—and drill on the dependent word order must be given until something like automatic reaction is obtained. Later, in running the lists of coordinating and subordinating conjunctions the alphabetical order is again helpful. It will be possible, however, to *emphasize* by a few of the common subordinating conjunctions as mentioned in the line.

Word Order

Word order is so different from the English that considerable readjustment in the language habit of the pupil in this respect is demanded in order to acquire anything like a "feeling" for the proper position of words. I do find that the teaching of the normal, inverted, and dependent word orders and the difficulties that are apt to arise in the first year. I find it not very necessary to emphasize—but to have regular "slogans" for the position that troublesome little word "nicht," for the position of the *perfect participle*, of the infinitive, of double objects, and of the relative position of adverbs. A general principle such as: "*The heavier word or element tends to vitiate toward the end of the sentences,*" often helps the pupil to solve the problem of position by himself.

So much for the *What* and the *How* much of Grammar—in principles of word position if you prefer. The *How* has been already somewhat suggested. Be sure drill and more drill is the watchword after the principles have been evolved—and drill in every variety of form—oral and written.

Right here comes the question whether the exercise on page three of the outline—the exercise for the filling in of blanks for the omission of words or endings—the changing of tenses or persons, etc.—these various exercises which are put under the heading "composition"—whether after all these exercises and drill in Grammar rather than in composition and as they belong under the heading of grammar rather than under composition.

The question now arises—what is left for composition in the first year? We have now finally come to what originally was to have been my topic: Composition in the first year of German—to me one of the most interesting phases of the first year work.

Taken in its broadest sense *composition* may include all kinds of "putting together" exercises all kind of *composing*—hence all grammatical exercises and drills would be included as they are on page three of the outline. In fact, most of the first year books make no further provision for word position. A real test, however, of a pupil's ability to apply the essential principles he is supposed to have mastered thru the exercises and drills—lies in what I consider *real* composition—composition of the kind that gives the pupil an opportunity to express his own thought about a given subject. Is such expression possible and valuable in the first year? So far as I am concerned I feel that it is both possible and valuable in the first year—a very limited form to be sure. We cannot demand more of a pupil than possesses in the way of vocabulary and grammatical forms. But, oh, the right to try out what little he knows in the form of more or less free composition. To be sure this free composition is really not so free after all. A very definite subject must be given, one that will call only for the vocabulary has studied. Here again, the importance of a standardized vocabulary is evident. To insure success rather than hopeless jungle and confusion, I have found through experience that very definite directions and cautions are necessary; such as, "Limit yourself to what you can say correctly. Do not show yourself to make a single error! The habit of accuracy and neatness is worth while. Picture the actions or the situation in your mind and try to link about them in your German vocabulary." I find it necessary to re-

mind them of the proper form for composition, to indent the first word of a paragraph, to observe the four margins, to capitalize all nouns, and so forth. To be sure the material for the little composition is first taken up orally in class and perhaps part of the class period for several days may be given to such oral preparation. However, after having drilled on such verb series as "Ich gehe an die Tafel." "Ich spitze meinen Bleistift"—I find very little further oral preparation necessary to enable the pupils to complete a little composition—the beginning of which I give them in mimeographed form. Such a composition might be:

Das Schulzimmer.

Such a beginning given to the pupils might be:—

Ich bin ein Schüler (eine Schülerin). Ich heiße Hans Miller. (Pupil substitutes his own name.) Ich gehe in die Schule. Ich gehe um neun Uhr in die Schule. Ich gehe in das Schulzimmer. Ich sehe—. Erzählen Sie weiter.

A paragraph of considerable length might result based upon the study of nominative and accusative of nouns representing objects in the school room—or upon the verb series, and the best part of the work is, the pupils often vie with each other in being able to bring to class a paragraph "fehlerfrei." The pupils find real pleasure in re-combining old material into a composition from a new point of view. Another example of such composition based entirely upon old material but upon a different point of view later—after the past tense has been studied might be:

"Was Fritz in der Schule tat." Here again, I give each pupil the introduction of the composition in mimeographed form:

Was Fritz in der Schule tat.

Fritz kam um halb drei nach Hause. "Fritz", sagte seine Mutter, "was tatest du in der Schule?"

Fritz antwortete: Ich lernte meine Aufgabe. Ich schrieb die Aufgabe in das Heft. Der Lehrer sagte: "Fritz, gehen Sie an die Tafel." Ich stand auf—. Erzählen Sie weiter. Fehlerfrei! Here the pupils will not find it easy to work in the verb series, but they will enjoy making up new series based on the known. They enjoy the feeling that they can express themselves in whole paragraphs—and all in German!

Another form of composition is one in which we work out a vocabulary, or rather a list of catch words—based upon questions and answers taken from material previously studied. I prepare a set of questions—the answers of which will present a well organized paragraph upon a definite topic, such as "Auf den Strassen"—or "Auf dem Marktplatz." Only the finite form of the verbs—the bare noun without the article, and catchy adjectives make up this list of catchwords. After three or four questions have been worked out in this manner, some of the brighter pupils are called upon to talk from the vocabulary list on the board without reference to the questions. After several pupils have thus talked from this material, more words are added by the question and answer method. Then we go back to the beginning several times. Only fifteen or twenty minutes at the most should be given to this work. The third day, the pupils should talk on the material of the first day without reference to the catchwords—and thus gradually break away from one set form but hold to the same main line of thought and correct construction. Finally, after considerable oral drill, from 15 to 20 minutes each day for a week or more—the pupils write the composition in class as a test. Since, from the beginning, only the infinitive of verbs is given, and no declensional endings are included in the list—the pupil is required to construct each sentence anew each time. This does away with the mere memorizing without thinking or analyzing the construction. The first few compositions worked out in this way go rather slowly but after several have been worked out the pupils are able to do rather long compositions in a comparatively short time. I find this method especially helpful in developing Sprachgefühl. After

pupils have worked out a composition with so much oral drill, I find that have done much toward mastering the vocabulary in a way that will it easier for them to use again as occasion demands. Especially is there tunity for individuality in this method,—no two compositions will be to be exactly alike in construction.

hort stories to be retold orally may be worked out in a similar manner, just enough words to suggest the next thought. I find the pupils inter- in paraphrasing poems, especially such as "Gefunden" and "Die Lorelei!" ch lend themselves readily to this work.

hese are merely a few suggestions as to ways in which we may give the an opportunity to express his thoughts about a definite topic in the n language. Not only does he acquire much in the way of Sprachgefühl is manner—but he also finds this form of oral and written work an able change from the exercises in grammar. Moreover, this form of osition is a real test of the pupil's ability to apply what he has learned : reading, in the grammar, and in the grammar drills and exercises.

Discussion of Miss Bartenbach's paper.

The difficulty of restricting compositions to the use of the nomi- e and accusative was suggested. This is necessary however only e very early lessons of the year. In general it was considered :veral difficult to get much composition into the first year. It suggested that an outline helps the pupils. More oral composi- than written was favored by Miss Lewerenz. Mr. Korb warned ist expecting too much. Better let students make mistakes than uce nothing at all. Dr. Koller warned against the overemphasis honetics. Subject matter is the important thing. He thinks :tive declensions are not difficult and he can teach the passive in five minutes. It is merely a matter of recalling the verb 'den''. Mr. Vorsheim teaches the passive by action. The Ginn of series worked out by Prof. Handschin was referred to. Miss Eunice Prutsman followed with a paper on "Informational vledge, and Miscellaneous", which is here presented:

My opinion of the informational knowledge a student should possess : end of the first year will not be of interest to those who have a four course in German. To do justice to a person who can have only two of study, I feel more of a general nature should be accomplished the year. The foundation of a language is drudgery. Though I try to vary onotony of grammatical drill by making up games—that nevertheless are ar drills—the children soon realize that there is drudgery and hard in learning ends, cases, tenses, etc. I feel that unless we can put enough : taste of the pleasure of advanced work into the first year, students will e discouraged and drop the very work which was to broaden their out- and awaken a true appreciation of German achievements. To my notion eacher is largely responsible if she does not arouse enough interest in upils to make them want to continue their German. Therefore it seems : that we as teachers should devote some of the time of our first year to esting pupils and giving a slight general knowledge to those who do not but one year's work.

n history I feel the students should know the history of the founding of resent Germany. This will naturally suggest the three founders, Bis- k, the statesman; Moltke, the general, and Frederick I, the kaiser. My

pupils enjoy the story of Barbarossa, the favorite *kaiser* of a previous confederacy because of the legend connecting Barbarossa and Frederick I. The legend that the Germans did not believe their favorite *kaiser* was dead, but that he was held under magic spell, asleep in Kyffhäuser till the German people were ready to be united into a great nation and that Frederick I was Barbarossa alive again. I find it better to give just enough of such matter to catch the pupils' interest—not a detailed account until later the next year when we study more details. If carefully presented, I can see no reason for omitting this history and several other sub-divisions in this outline for fear of being considered unpatriotic. It is our place more than ever to respect the good presented to the world by every nation especially by Germany. We should not infer that Germany alone has been a benefit to civilization but should try to teach our students to appreciate worth in every nation.

In geography if the pupils know that Germany is about the size of Texas, but with a population almost three-fourths that of the United States, they will realize why the Germans have needed to become efficient. If they know the climate, they can remember the products easier. Due to Germany's great commerce, they need to know what products Germany has to sell. The surface will explain the dialects. They should know the influence of the stage in unifying the language, but realizing that final *g* may be pronounced *k*, *ch*, or hard *g*. They should know the main rivers and the interesting fact that all but one flow north. Which one? It is hard to decide what cities they should at least have heard of, as cities may be important for many reasons. I try to impress at least one main idea of each of several cities with as much more about each as they seem to be able to retain. Berlin's importance educationally, commercially, and politically they should know and something also of the famous architecture of the reichstags-gebäude; Köln they should know because of the Dom; Nürnberg for the ancient architecture; Dresden for its art gallery possessing the "Sistine Madonna"; Strassburg for the cathedral containing a self-winding clock—(the maker of which lost his life for fear he might make a clock of the same kind for some other city, etc.) The teacher can make a choice of cities according to the interests and inclination of her pupils. Each year my list of essentials changes according to conditions and varying interests of my students. For the sake of those who fail, the course should be elastic enough to secure the interest of even the repeaters. The reading text will largely determine the teacher's choice.

The third division I prefer to call literary significance. My first division under that is a brief study of the German system of education, especially of the kindergarten and university since these two are the contributions of the German system to our American system. Froebel, as the originator and proprietor of the kindergarten, is exceedingly interesting. College and university should be clearly separated in the students' minds from the study of the German system. I find it especially wise to have students work out differences in American and German universities. Studies of universities will naturally call for a mention of Jena, Heidelberg, and Berlin as important. The student should understand that the twenty-two universities have done much in raising the average intelligence and desire for education even in villages.

Second under the third division Wartburg should be mentioned because of the literary significance of its dungeon, Luther having there translated the Bible and given it to the *people* for the first time in *German* thus helping to establish a more common dialect. If the Reformation is presented historically, no denomination should be offended. In addition to Wartburg, Weimar should be known because of Karl August's influence in Goethe's life. Oberammergau famous for its Passion Play, a knowledge of cause of the first performance, its continuance, the requirements of its actors, etc., is worth while.

Under the literary significance after the study of the school system, a few towns of particular educational importance, I have included the subdivisions poems, songs, and legends. Most of the poems we read I have my pupils learn by heart. Of course each semester I find time to read them poems from other books to illustrate various points that arise in our discussion of the

study. After a little vain objection, they learn Goethe's „Erlene's two poems, „Du Bist wie eine Blume“ and the „Lorelei.“ The theme of the mermaids in the first and last poems seems to please about Christmas time we learn „Tannenbaum“ and „Stille Nacht.“ We learn splendidly with the festivities discussed in the last section of

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There are many pupils who can not arrange their programs to include a year's work in German, or who do not care for more, I feel that additional information not found in the usual first year reader should be added. If scientists must learn German to read German on scientific subjects in the original, I feel that the students leave our classes without the knowledge of the fact that Germany is a world in science. Except for the fact that Röntgen invented the X-ray to fix a general idea of Germans scientific progress by the year and later study it more in detail. Incidentally—before the time to mention the Krupp gun works, showing why German dyes, and of ammunition plants could be obtained so cheaply. At present I have made up my mind but believe I can do it without raising the class.

Community German script does not raise any antagonism. More so we argue, we should know the language of our foe even if he deceives us by using German script. At any rate my students enjoy their own and every one else's names in new characters. As I believe in German first by imitation rather than by reading or spelling, I assign a script to give some home work before the regular home study grammatical drills in the form of games work well if they are not so on that the novelty wears off. The German club gives me a chance to use more interesting material than I have time to even touch in class, as more interest but does not prepare my students sufficiently to converse frequently with a native German. However my first year class does go to German club. I reserve that privilege for my advanced pupils nevertheless we usually invite the first year class once so that they know more German to have the privilege of belonging to German

club section and one which I believe introduces my students to reality, I have called, for want of a better name, Distinctive German customs. Each teacher should make out her own list. I shall list four as I believe those four will illustrate the point I am making. The subdivision is festivities. It is important that as we have talked about the efficient Germans who work so untiringly and ceaselessly, that we realize that the Germans enter as heartily into good times as

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Grammatical drills in the form of games work well if they are not so often that the novelty wears off. The German club gives me a chance to include more interesting material than I have time to even touch in class. It stimulates more interest but does not prepare my students sufficiently to converse eloquently with a native German. However my first year class does belong to German club. I reserve that privilege for my advanced pupils. Nevertheless we usually invite the first year class once so that they may take more German to have the privilege of belonging to German club.

In the last section and one which I believe introduces my students to real German life, I have called, for want of a better name, Distinctive German Customs and habits. Each teacher should make out her own list. I shall mention only four as I believe those four will illustrate the point I am making. The first subdivision is festivities. It is important that as we have talked about the efficient Germans who work so untiringly and ceaselessly, that my students realize that the Germans enter as heartily into good times as into work. We usually plan a Christmas program as nearly as we think German boys and girls would do. They enjoy telling about all the kinds of "Fest", the Christmas tree, Saint Nicolas, etc. I have decided that all festivities dealing with special German victories are unwise for the present. We should emphasize the phases in which Germans are like Americans whenever they are as well as the ways in which they differ.

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giving different masterpieces every day rather than one running weeks at a time. We talk about how the German stage takes better care of the ~~more~~ of its actors by giving them contracts which insure permanent employment and time for home life.

Third, probably no government knows as much officially about citizens and visitors as does Germany. The present war will probably show the necessity of the German police registration to discover spies.

Lastly my pupils enjoy hunting up information on German meals, ~~own~~ probably, to the fact that they like to "show off" their knowledge at their homes for the benefit of younger brothers and sisters. The "Kaffeeklatsch" is a new institution to Americans. While I attended summer school in ~~Wauke~~ Wauke I likewise was surprised that so many business men would stop business for an hour of genial intercourse. The good spirit and friendliness toward each other and strangers are well known.

Undoubtedly there are those who feel I have not emphasized the conversational proficiency enough, and others, that I am trying to cover too much ground. I feel that the content side not the method is the important side and if I can awake an interest in Germany's achievements and unprejudiced appreciation of it so that the pupils' outlook is broadened, and their ability to enjoy life is developed, I shall be satisfied.

Discussion of Miss Prutsman's paper followed.

Dr. Oliver presented a copy of Bulletin No. 18 to each teacher present and remarked that it was a collection of informational material sent in from all parts of the United States.

Then followed Miss Amanda Lewerenz, with a report on A Half Year's Trial of Supervised Study:

Before I shall go into a detailed account of the results of supervised study in my German 1 class it will be necessary to say something about our method of supervised study. Our *Maine High School* method is somewhat different from that used in other schools. The most important difference perhaps is that we supervise Freshmen and Sophomores only. In Latin 1 we permit only those Freshmen who, at Grammar school, had a record of 80% or more. The same record must have been made by an upperclassman in the year preceding that in which he wishes to take up Latin. In Algebra 1 and English 1 the Freshman class is divided into three groups, A, B, and C. Section A includes all those whose work have placed them in the 1st quarter or above 87½% scholarship in their class. This class is not supervised and is required to do more and better work than the other sections. Section B is made up of those in the 2nd and 3rd quarters and section C includes those in the 4th quarter or those who are failing. This section is supervised.

In Plane Geometry, English II, German 1, Ancient History and Commercial Arithmetic the classes are divided into two sections A and B. Section A includes all in quarters 1, 2, 3 and section B all those in the 4th quarter. Section B is supervised. In all instances the period of supervised study follows the recitation period in the schedule of the day. Finally, we do not give credit for the time spent in a supervised period.

This system of supervised study was introduced in February, 1917. The great desire of our pupils not to need supervision is the result. To them the system has been helpful and effective, but costly. To the school it is not only effective but stimulating and economical as well.

This fall we started all pupils on an equal basis and gave them an opportunity to adjust themselves. We began our supervised study classes at the end of the second month. Already we have noted the good results of our system which was used from February to June. We find it to be a stimulus to good work. In Spelling, for instance, where we supervise all those who fall below 75, we have but 5 out of 200. The work as a whole is better because the

study more in order to keep out of the supervised classes. We believe his system is especially helpful to the weaker students. They are automatically forced to take fewer classes and to really do something worth while subjects they register for.

Our system is simple. It costs nothing because it requires no extra pay of teachers and no longer session. We begin work at 8:30 a. m. and at 2:15 p. m., with a half hour for lunch and twenty minutes a day for tuition. Before we adopted this system we sent it to the Parent-Teachers' of DesPlaines and Park Ridge, to several prominent educators, and to the principals of the grade schools which send their students to us. We also discussed it thoroughly with our own pupils. All gave us their hearty support and approval. Mr. Hollister, the High School Visitor, wrote: "It seems to me that you have hit upon about the right thing for the treatment of this problem. Evidently you propose to give the medicine to those who are sick and not to those who are well. I like your plan. It means that those who are in need of help will receive the help." Mr. Tobin wrote: "The plan seems to be an excellent one." Nathaniel Butler of the U. of C., said: "It seems to be wholly admirable."

Another excellent result of the *Maine* system of supervised studies is that it is flexible. We supervise students as soon as they fall below 75 and again, if they show marked improvement while being supervised, they have the privilege of dropping the supervised class and of staying out of it as long as they keep up a good record. This shows that it encourages home-study and self-direction.

This year we are supervising at present time, 11 out of 91 in English out of 83 in Algebra, and 8 out of 27 in German 1.

Now to give the more specific results of the supervision of last year's German 1 class: In September, 1916, we registered 25 pupils in German 1. Of these, 6 or almost 25% failed at the end of the semester (that is, they could not have passed high enough in the second semester to get full unit credit in the subject). Of the 19 remaining one had to drop out. Seven of the 18 were supervised, regardless of the grade they had made during the first semester. Others were not supervised. At the close of the second semester none of those who had been supervised. Of the 7, 4 were below 75, one had 75, one had 76, and one had 90. The results may be seen from the chart.

SUPERVISED.		NOT SUPERVISED.	
68	76	78	82
63	78	74	70
76	82	94	90
75	77	79	79
68	75	76	76
70	75	79	77
90	89	90	91
		92	89
		93	97
		76	75
		83	75

I believe that you will agree with me that the work during the second semester is more difficult than it is during the first. From the grade above you will notice that of those supervised every one (except the 90 percent) raised his work. Of those not supervised, 1 failed, 5 were considerably lower, 2 did not change, and 3 (good, 90) students raised their grades. We may draw the following conclusion—a good student is not materially helped by supervision, but a weak student improves his work.

The text we used is Zinnecker's "Deutsch für Anfänger" and Scherer's "Deutsches Lesebuch." We always use the German script and spelling. In order to help pupils memorize the sound we have dictation work rather frequently. We also do a good bit of memory work. Last year we memorized: "Heldenröslein," "Treue Liebe," "Vergissmelnicht," "Lorelei" and "Juchhe." I find that now, my second year class, still remembers these poems. In learning them in the supervised class we would often put a time limit on the memorizing to see how quickly it really could be done. The composition work during the first three months was translation of short sentences and (when given the nouns or verbs) pupils had to make up sentences of their own. During the last weeks I would read to them simple sentences such as, "Rudi und die Wölfe" or "Der Rattenfänger." These the class would then rewrite as they remembered them. At first the work of some was exceedingly poor, but they did very well toward the end of the semester.

In the supervised class we study together. First we thoroughly understand the lesson and then they study it. As they need it, I give them my personal attention. They can write at the board whenever it is easier for them to study that way. I then go over the work with them and show them where they are wrong and explain why it is wrong. We usually cover the next day's lesson and have five to ten minutes left for review work.

MAINE SYSTEM OF SUPERVISED STUDY.

We, the committee appointed to investigate and recommend a system of supervised study for adoption in Maine Township High School make the following recommendations:

I. That supervised study should be adopted in the following classes: Latin 1, German 1, Algebra 1, Plane Geometry, English 1, English II, Ancient History, Arithmetic, Spelling and Penmanship.

II. That in Latin 1, only those who have been in the first or second quarters of their class during the preceding year, whether in grammar school or in high school, are eligible for admission to the class.

III. That in Algebra 1, and in English, 1, the class shall be divided into three sections, A, B, and C; that section A shall include all those whose work has placed them in the first quarter of the class; that section B shall include all those whose work has placed them in the second and third quarters of the class; that section C shall include all those in the fourth quarter of the class; that section C shall have supervised study.

IV. That in Plane Geometry, English II, German 1, Ancient History, and in Arithmetic the class shall be divided into two sections, A and B; that section A shall include all those in the first, second or third quarters of the class; that section B shall include all those in the fourth quarter of the class that section B shall have supervised study.

V. That in German I, Ancient History and Arithmetic, any supervised study shall be conducted by the teacher conducting the recitation; that in Algebra I, Plane Geometry, English 1 and English II, the supervised study shall be conducted by a different teacher from the teacher conducting the recitation period, if possible.

VI. That in Spelling those who fall below 75 shall recite forty minutes daily in addition to the regular weekly period. That in writing the same shall apply to those whose work is unsatisfactory in the opinion of the Principal.

VII. That in all instances the supervised study shall follow the recitation period in the schedule of the day, if possible. That supervised study shall receive no credit.

ELMER E. BLADES,
AMANDA LEWERENZ,
LILLIAN M. BARNES, Committee.

Approved by C. M. Himel, Principal.

Discussion after Miss Lewerenz's paper.

It was suggested that using a part of the regular recitation hour for supervision be tried where no time was given for an extra supervision hour. The Joliet plan of three double periods a day for each teacher was commended. It was suggested that students with low grades take fewer than the regular number of studies. It was reported that younger classes in beginning German with supervised study could keep up with those several years more advanced who were not supervised, and who otherwise invariably moved much faster; that the concentration was greater in a supervised study class than is usual when each individual studies alone; that time was saved by the presence of the teacher at the time she is needed, and that the thought of being free from hard work after the supervised study hour was an incentive to joyful effort during the hour. The usual objection that students are made dependent by supervision was raised. It was answered that no teacher need let such a situation arise. She is there to see that pupils do independent work and are not told answers by their older or more brilliant friends. A teacher knows where and what kind of help will make for progress. The saving in waste, it was suggested, would save in the expense involved in having sufficient teachers for supervision.

As to the technique, it was suggested to go over the lesson with the class and tell them how to proceed, the latter part of the hour to be used for written work. Pupils with lesson finished might read a book while the teacher helped the slower ones. Supervision carried too far, it was suggested, might make students lax. No one reported observation of such results who had tried supervision. It was also suggested that this elimination of failures through supervision might be too much coddling, disheartening to brighter students. Dr. Koller suggested the honor section as stimulus to brilliant ones. Miss Bartenbach reported a system of giving more credit to brighter pupils. The school at Monmouth is divided into three groups according to their grades. Grade 2 gets 4.5 credits, Grade 1 gets 5 credits. Grade 3 is unsatisfactory. 3 gets 3.5 credits.

Dr. Fitz-Gerald was reelected to succeed himself as the third member of the executive committee.

The next paper presented was by Lois D. Walker, of Oak Park, on the "Projector and Class-Room German". The paper follows =

When an experienced teacher considers the introduction of some device which is proposed as an aid in the presentation of his subject he puts to himself one question which he considers all important, and, I may say, all decisive. He asks: Will this be an encumbrance—an additional bit of machinery, merely,—or will it really be a help? Is this a fad—a thing which tells well, or is it something vital? Will it actually make my work more effective? Will the student, by means of it, get more than he would without it. After using the projector for about two years I feel ready to say without hesitation that it is a valuable asset. It is not merely a source of entertainment, although it has that advantage. To the modern language teacher it serves several very definite ends, which I propose to enumerate.

The projector is a machine which enables one to throw upon the screen a postal card, a leaf from a book or magazine, any sort of picture, with practically the same effect as though one were using a lantern slide. A coin may be shown as easily as a postal card—a piece of tapestry with all its intricacies of design is a good example of what may be put before the student by this means. It is a device for showing on a large scale opaque objects—hence the name—opaque projector.

The merits of this machine should not be judged by the kind of lantern which is familiar to us through parlor entertainments, which may be purchased for twenty-five dollars or less.

The cost of the more powerful machine suited to class-room work from ninety dollars to two hundred fifty dollars. A very satisfactory one, and one which is a combination lantern and projector, so that it may be used for either slides or for opaque objects, is to be had for one hundred and twenty-five dollars.

These figures make it apparent that the difference in cost between the projector and the ordinary lantern is considerable. A good lantern costs only about forty dollars. What, then, are the advantages of the more expensive machine? In the first place, we may observe, in that all-comprehensive phrase of our day, that with the lantern it is not the original cost, but the upkeep! The matter of buying slides is an endless affair. Each slide costs from twenty-five to ninety cents, according to subject. As compared with slides, the cost of postal cards and odd pictures is practically negligible. (I may mention in this connection, that in case one wishes a print made from a slide, this may be done at a cost of only a few cents per picture. Moreover, the slides to be purchased are limited even if there were no question of money to be spent for them. It is easy enough to procure a slide of "Unter den Linden" or of the Heidelberg castle but is not so easy to lay hand upon one which shows a Hessian peasant costume, a second class compartment in a railway train—a coat of arms—a procession of German students. While the slide which one may own gives a fair representation of the Wartburg and its situation on the crown of the hill, it does not by any means offer the vivid impression to be gained from a dozen postal cards which show the castle at a distance—the climb one takes to reach it, and details of the interior. A kodak picture in one's own possession is often just the illustration wanted to make a point real. The most of us have tried and discarded the plan of passing such pictures around the class. This performance detracts from the attention of those not looking at the cards—thus interrupting the recitation which is going on—or even if the recitation is suspended for the purpose, it is a disorganized affair, which one is glad to end. Aside from the confusion, which results, this method has the further disadvantage that the pupil fails to get any vivid impression. By means of the projector, each pupil in the class sees the picture at the same moment,—hears what is said about it,—gets the point made. The picture is also sufficiently enlarged so that he visualizes what the teacher tells, or what he has read in regard to the foreign country, whose language and life he is studying.

The advantage of being able to throw colored pictures on the screen is obvious. This is a very simple matter with the great variety of colored postals to be had, while a colored slide is hand work, done by an artist at an additional cost of fifty cents per slide.

Another advantage of a good projector is a mirror contrivance by means of which one is able to throw upon the screen a sentence or a paragraph from a student's paper for the criticism of the class. To read a faulty sentence aloud is not at all the same thing as to put that sentence with its errors to be corrected or its good points to be imitated before the entire class, and represented on a scale large enough to be readily seen.

The consideration which might weigh against the purchase of a projector rather than a lantern, aside from the initial expense are not weighty. The electrical connection costs slightly more, and there must be a device of some sort for shutting out the light which would otherwise sift in at the sides of the black curtains which darken the windows. The room must be absolutely dark—not more or less so, for the successful use of the projector. A simple arrangement for this purpose may be substituted for the more elaborate fixtures sold by the companies who offer the machine for sale. A wooden cleat hung on hinges at either side of the window, easily made by any carpenter, covers the crack between curtain and side of window.

The obvious advantage of the projector, or indeed of any lantern, is to illustrate the text. For example,—the author mentions the terraces of Sans Souci. Perhaps there is a picture in the book, perhaps not. If there is one it is probably too small to be effective, and it shows no detail. The screen gives that definite impression which many words fail to convey. In speaking of a Rathaus, the word *Holzschneider* is used. It takes a detailed picture to make that word mean what it should to the student. In a book which we have been recently reading, several famous paintings were emphasized. As is probably not unusual, the majority of the class had never heard of the paintings. By repeatedly showing these on the screen, this part of the story has taken on for the student its real meaning, not to mention the informational knowledge gained. Examples of this sort readily present themselves in connection with any text. The greatest need of such illustration lies in books which deal directly with a description of German life, German cities, German customs—but it is also valuable in connection with most stories and plays. In such a story as Gerstäcker's "Irrfahrten" it is invaluable as furnishing the student an idea of what the Rhine country is like. The mountain background of Wilhelm Tell, so essentially a part of the atmosphere of the drama, is twice as real if the student sees these lifelike pictures of the narrow passes, beautiful lakes and remarkable color effects of Switzerland. Another well known class text begins with a description of the market place in a certain town. After seeing pictures of Marktplätze of several towns and cities the paragraph assumes a very different meaning to the American student. Examples of this readily present and multiply themselves in connection with any text. A further enumeration would be superfluous.

While a large permanent map of the country which one is studying is indispensable, it is frequently convenient to present to the class a map representing a single state—or a limited section of a state—a city, perhaps. To sense our story or play, we may need a map of Berlin—of the forest cantons of Switzerland—of Schleswig Holstein. It is worth while to have individual students make such maps, to be thrown upon the screen for use and for criticism if need be.

The manner in which the projector is used determines whether it is merely a source of entertainment or whether it is actually a part of the classroom language work as well. Because I believe that it should be and can be made actually a part of that work, I suggested as a title for what I might be able to offer on this subject—"The Projector and Classroom German."

One valuable sort of training is given to the student when the teacher explains, in as simple German as possible, what each picture is. If he takes

great care to use sentences which are not involved, even the second year student, with the aid of the illustration, gets practically everything that is said, without the use of any English words. This is exceedingly good ear training. One must not be too ambitious about this. He must not attempt a German lecture. It must be a simple, clear explanation, repeated when necessary, and with each picture exposed long enough for the impression to "sink in." In connection with this point, I may emphasize two "Lont's"—(1) Do not show pictures in rapid succession. The student may be entertained, but he does not remember,—neither does he hear. (2) Do not show too many pictures—or pictures of too great variety at one sitting. The pictures should be carefully selected with the idea of giving a certain definite impression, and that, a lasting one.

Another way of conducting the recitation is the question and answer method. This is somewhat livelier, and works well. To illustrate: one puts a picture of the Wartburg on the screen, with the question—"Wo steht die Wartburg?" This at once suggests to the student, and far more vividly than the words without the picture would do, an answer from the text,—"Die Wartburg steht oben auf einem hohen Berg." "Sie ist die Krone aller Burgen?" Through a picture of old Hamburg one easily elicits such an answer as—"Alt Hamburg hat enge gewundene Strassen," and at the same time the student is visualizing what he says. A picture of school boys should produce such simple statements as—"Das sind Gymnasiasten. Die Gymnasiasten tragen bunte Mützen." A good student will probably add,—*"Man sieht an der Mütze, ob der Schüler zu tern versetzt wurde."* The teacher helps out such attempts by suggestive questions such as—"Was sehen wir im Hintergrund?" "Ist diese Burg bewohnt?" "Was für eine Stadt ist Dresden?" The most important pictures are repeated and the student learns to recognize them. A satisfactory review lesson may be compassed in this way. *Any device for holding the student responsible for something, counts.* To be vital, this work must seem like business, not be an extra, which does not demand attention.

A third and probably the best way of using the pictures is to give out one or more cards to individual students beforehand. Each student prepares a few sentences which explain his particular picture. When the picture appears on the screen he makes his recitation. A good student easily prepares his work without help. It is sometimes necessary to require poor students to present their points for correction before they are offered to class, to save time and to avoid confusion. A good student may prepare a recitation for several pictures, a poor one for one picture. This device may be varied by having the students prepare questions, instead of explanations to suit the pictures. Upon the appearance of the picture assigned to him the student asks his questions and they are answered by the class, or by individuals whom the questioner selects. One gets such a recitation as this: "Was tragen die wandernden Schüler auf den Rücken?" "Sie tragen Rucksäcke," "Wer hat in diesem Zimmer gewohnt?" "In diesem Zimmer hat Luther die Bibel übersetzt."

After a little practice, a good deal of ingenuity appears in these questions and explanations. Knowing that he is to make a special recitation, the average student takes some pride in having it well prepared and effective. He is exceedingly bored if there is an awkward pause when his picture appears and the class waits for the explanation.

I mention with some hesitation the use of the projector in place of the large wall pictures which have found favor with a good many teachers—detailed and rather crude pictures entitled for example, "Der Frühling," and supposed to be used for general conversational ends and the acquiring of vocabulary. To many of us, general conversation in the class room is necessary. We feel that it must be confined strictly to the reading material, so that we may not scatter our efforts. If, however, any use be made of such a picture method for acquiring a vocabulary, the use of varied pictures by means of the projector is obviously better than to be bound to one or two wall pictures.

tures which may or may not fit the occasion. One may buy fifty postals or more for the price of one large picture, and any vocabulary whatever may be illustrated by means of the projector. There are some difficulties in using the projector—difficulties which one learns to avoid. One must use it often enough, so that it is not too much of a novelty for serious attention and routine work. This is also important for a reason I have already emphasized,—that the impression may be one which remains. A skillful question or two today on yesterday's pictures shows the teacher at once whether he is succeeding or not.

The pictures should be chosen with a view to distinctness. A clear-cut picture shows up much better than one where the outlines are vague. Fortunately the postal cards available are, for the most part, distinct in outline.

The performance needs to be an organized affair. There is a good deal of confusion about preparing the room for the pictures, if it is done at random. The simple way out is to appoint one person who always attends to the screen, another who draws and secures the curtains, another who turns on the lights, and still another who places the lantern and adjusts the carbons. With such an arrangement everything is made ready in a minute or less, and the recitation does not lose in time or unity of effect. This may seem to be over carefulness but a little experience shows one the disintegrating effect of a lack of such system. I may suggest also that while it is convenient to have one of the students run the lantern, so that the teacher may give an undivided mind to the recitation, it is important that he know how to run it himself,—for reasons that are too apparent to mention.

One may save about twenty-five dollars on the cost of the outfit by using an ordinary sheet instead of a screen. It is less convenient but perfectly practicable. A simpler scheme is to whitewash a sufficient space on the blackboard, if such space can be spared.

In most schools the projector is perhaps too expensive to be bought for one department. It may be purchased and used to advantage by several departments, as the lantern may be moved from room to room, wherever the proper electrical connection has been made, or an exchange of rooms may be arranged on days when it is in use. There is no doubt, however, that a partnership ownership of this sort is not ideal. The history, English and Drawing departments are especially calculated to be interested in buying such a machine. While this general use of it justifies the expense, in cases where such an outlay could not be granted to the German department alone, it must be admitted that if one is to use the machine systematically and effectively it ought to belong to one department.

Our experience with the projector convinces us that it furnishes an added interest, that it makes the text vivid: it varies the routine of the recitation without interrupting it. It offers within class room limits the kind of thing often reserved for a German club, yet it is not an outside feature which demands an extra hour, extra preparation, a scattering of effort. I repeat that it is easy to make it an outside feature, but with care it may profitably be incorporated into the essential class room work.

MUSIC SECTION

The Music Section convened at 9 A. M., and, after a short address of welcome and statement of the purposes of the meeting by the Chairman, Director J. Lawrence Erb, the Round-Table Discussions were continued. The first, "A Curriculum in the History of Music for the High School," discussion opened by Ludwig L. Carl, Supervisor of Music in the Belleville Township High School, Belleville, Illinois, whose paper follows:

It shall be my endeavor at this time to secure a rightful place in the curriculum of High School teaching, to a much neglected branch of music education. By the word "neglected," however, I do not want to create the impression that History of Music is not taught in school, but that in my opinion the subject is not sufficiently systematized. It shall be our task today to determine its right to being taught and to find the best way of teaching it. From an educational standpoint History of Music is at least as important as Appreciation of Music. And what is Appreciation of Music? Is it not a knowledge of theory and form of music, the ability to make an analysis of a composition? Does not the study of History of Music lead us to a point where we can appreciate theory and form and thru it music in general?

We have acquired the habit of accepting the finished product as a matter of fact, as something that is due us; we realize the importance of being able to make use of it and teach ourselves and others to appreciate it. But we usually neglect to analyze its beginning and development up to the present time. How many people for instance are able to give the history of the Automobile? Its great advantages to mankind are well known and we certainly appreciate the invention. But the progress of the development of the principles of the motive power in a machine is not generally known, though it would add to efficiency in building, selling and driving the car. It is a fact, that we are not able to get the full value of the benefit we derive from anything, until we have made an analysis of it from the beginning to the end. Would we be in a position to appreciate wholly the institutions of our government and the conditions, under which we live now, without having studied the history of our country? History is the study of the development of things and not stating the mere facts. It is not sufficient to say that on such and such a day a certain occurrence happened. Rather, we must know why it happened, not only when and how it occurred. This applies also to the History of Music. We must not simply teach that "Beethoven was born in 1770 and died in 1827 and write the following compositions." It is our duty to impress upon the student that the development of music led Beethoven to compose in certain styles, which had a start centuries back, to show the influence of circumstances and conditions, to explain that everything was prepared for a genius, named Beethoven, to step in and take the leadership and do his bit in the preparatory work; to put in place his parts of building material for that beautiful edifice, the Temple of Art, and, in time to make things ready for his successors in the continuous endeavor progress.

If the History of Music is taught in the spirit of showing the everlasting chain of circumstances from the beginning to the present time, we arouse the interest of the student and by impelling him to search for the threads which combine the different periods, we made him think, and he will look at music from a different angle. He will recognize music not only as an art but also as a science. He will realize how important this branch of art is in the cultural development of mankind. The scientific side of music is really the one that should interest the educator more than the artistic, as it is my belief that we can reach the true meaning of music only from a scientific standpoint, because what the genius produces unconsciously, through the power of his gifts, calls every time for an explanation by the musical scientist, in the case of theory as well as that of history.

This leads us to the psychological phase of the history of music. It should be understood that History of Music must be treated in two methods: 1. Original History. 2. Reflective History. Under the first head we count the narrative history, that is the relating of happenings as they are found in books of the contemporaries; descriptions for the most part, limited to biographical statements and a summing up of the number of compositions. It is the gathering of historical motives. There is no connection between the different historical points, each event stands independently before us without a reflective tie. The next step, however, leads us to the second kind of history, which we may call the Reflective. It is history which makes demands

of the investigator, to gain a view of the entire development. In this case the working up of the historical material is the main point. The writer of reflective history connects the detached events and gives us a more general idea; he helps us to a point from which we can realize how the past can and does bear upon the present condition of music. If we analyze and criticize conditions from period to period and are able to find the connecting links between them and also of the various national musical events, we are devoting ourselves to reflective History of Music.

But History of Music cannot be taught outside of the frame of art in general. It is necessary to show its reflections upon the other branches of art. We must explain the position of music in the realm of art and its relationship to architecture, sculpture, painting and poetry. We must give an account of the influence of idealism and materialism in the development of music. Those two points are the governing factors in music. The continuous combat of idealism and materialism meant the motive power in the development of music. So there is no doubt that the emphasis should be laid on the reflective mode of history. There we can show the inner connection of the different styles and periods and are able to get a birds-eye-view of the whole subject.

The teaching should be done in the form of a lecture course, covering the period of two semesters. I would suggest to put it on the program for the fourth year of the High School course. For this work the student should be well enough advanced to be able to take notes and to realize the main points of the lecture. Of course the teacher must look over these notes from time to time and learn thru tests how much the student has gained and whether he can appreciate the vital points of the historical progress. And now I conclude my discussion with a general outline of a course in History of Music.

For our modern music we are mainly interested in the Christian music and for that reason we shall touch the theory of ancient music only lightly, only at points where we find the link between Christian and pagan music. We start out giving an accurate account of the forms of the oldest songs of the Christian Church, the climax of which is noticeable at the time of Ambrosius (333-397) and Pope Gregory the Great (590-604). At this point the introduction of the church-modes will call for an explanation of the tonal system of the church of Byzantium and its connection with Greek theory, as it links with the system of the Church of Rome and its developments. When we discuss the visible expression of musical thought,—that is, the method of writing tone-symbols, we have to spend a little time on the development of notation from the Neumes to our modern system. This talk will lead us to that St. Gall form of composition called the Sequences. Here ends the period of unison music and we enter that of Polyphony.

The first form is the Organum represented by Scotus Eregina (9th century), Hucbaldus (840-930) and Guido d'Arczzo (895-1050). The second form is the Discantus (12th century) and the third Fauxbourdon (14th century). With all of this we have to connect the developments of the mensur (rhythm), Musica Mensurata, against the former Musica Plana. The rules for this new addition to musical progress, have been given us by Franco of Cologne (1250). At about the same time Johannes de Muris (1290-1350) teaches us how to lead different voices, and Phillipp de Vitry explains consonances and dissonances. These two last named men mark the entrance of counterpoint, the beginning of which is the Canon in its many forms. Up to this point the idealistic music is dominant, but materialism has blossomed forth in the meantime. It is represented in the folk-song; minnesingers, troubadours and minstrels.

The period of the different art schools had arrived. The first is the Netherland School, the founder of counterpoint. The representatives of that school carried their knowledge over all Europe and especially to Italy, where the music of the North connects with the music of the South. This school existed far into the 16th century. In Italy we find the schools of Venice,

Rome, Naples, and Florence. Italian art experienced its prime during the time of Palestrina, when materialism had been again conquered by idealism. Soon we enter into the period of harmonic music, or the accompanied melody.

This epoch starts about the middle of the 16th century at a time when materialism fights the hegemony of idealism. We find Florence the center of this new form. It also marks the beginning of the opera and of instrumental music as a means of accompaniment. During that epoch we can watch the creation of some more new forms: Sonett (Sonata), Canzone, Cantata, Recitative, Aria, Overture, Characteristic dances. Now the Italians are the bearers of the seed. From there the new art sprads over all Europe, finding fertile soil in Germany and in England. The development in instrumental music was the most important thing during the 17th and 18th centuries, because it gave the human voice a basis. When Italy experienced a decline, Germany took the leading place. The first step was made at the Reformation during Luther's time, when again idealism triumphed over materialism. Now appear the two great stars on the musical horizon of the 18th century: J. S. Bach, the father of modern music, and G. F. Händel, the creator of the oratorio, the twin sister of the opera. Everything was prepared for their work,—the forms for voice and instrumental compositions as well as the technic in handling the different instruments. The modern style of the accompanied melody developed in the direction set by these men, emancipating itself from the forms of imitation and concertizing, which had been taken over from the golden epoch of the vocal polyphony. By leaving the strict fugue style, the thematic composition started. It was introduced in the symphony, sonata and quartet, by Franz Joseph Haydn, who used the motive contents of the two themes in the working out of his compositions. During all this time the Opera went thru a long period of development. Originally a start was made by the troubadours, when folk-music was in its prime. During the time of the Renaissance when Europe flirted with Greek art, musical scholars in Florence took an interest in the Opera and in the 18th century after all means were sufficiently prepared, Christoph W. Gluck was able to make the first step in a more modern style. His style was imitated and improved upon by composers of Germany, Italy and France and finally led to the highest standard, created by Richard Wagner.

Returning to the development of thematic composition we shall state that Mozart and Beethoven did not create anything new, but that they simply developed the inventions of Haydn. Mozart did that by combining Italian melodic grace with German efficiency and Beethoven by giving us harmonic grandeur, which is characteristic of subjective music.

The musical theme and harmonic combination are brought to most wonderful effectiveness because the composer has at his command an abundance of material, which has been prepared for him during all these centuries.

If we follow this plan and show thruout the course of History of Music the gathering of that material which finally made music enjoyable and calls forth our admiration, I am sure we will succeed in creating a better understanding of good music. This understanding will demand a higher standard in the performing of musical productions in the home and in the concert halls. And for the glory of our country we shall help to elevate the people's standard of refinement and culture."

The general discussion of this topic brought out a strong sentiment for the use of a text-book, either with or without lectures, and the necessity for adequate reference books in the High School Library. Emphasis was also laid upon the necessity for the teaching of periods and the tracing of cause and effect. It was also urged that the recitation plan be used in studying the History of Music, with a definite curriculum.

discussion upon "A Curriculum in Musical Appreciation" was by Miss Mabelle Glenn, of Bloomington, as follows:

CURRICULUM IN MUSICAL APPRECIATION

Her music is worthy of admission in a High School curriculum is a question in the minds of educators. They have unanimously its favor. Now we are asking, "Just how should music function in a School course?"

We have already divided the service of music in the High School into departments. One department acts as a means of promoting culture and recreation among the masses, and the other offers vocational training for the future. The first of these departments we are considering at this moment. Musical appreciation course is planned with a view to the extension of music among the people. Its purpose is to promote intelligent musical taste as a factor in popular education. Such a course should call into the pupil's active powers of observation and reflection and give him something solid to feed upon.

We all realize that music in America suffers from the common use of it by the intelligent people for recreation and amusement, rather than as something demanding serious mental application. How many Americans seem to say, "I like music but I don't know a thing about it." They do not realize that a fuller enjoyment comes with larger knowledge. Americans never claim the distinction of being a musical nation until good music becomes a necessity in the life of her people. The most effective agency to bring music to such a place is Appreciation courses in our public schools. Consider how many of you have found that your superintendents and school principals are glad to place harmony in your High School course as enthusiastic to start a course in Appreciation.

It should that word appreciation bias an educator's attitude to a subject. Is not every High School course in English or Science an appreciation course? The value of any course is not in the meagre quantity of facts in a year's work, neither is it in the sharpening of faculties; but in the vision it creates, the imagination it kindles.

Dr. Dickinson in his "Music and the Higher Education" has analyzed the question very cleverly. He says, "The development of taste, discriminative artistic feeling is purely an inward personal matter and cannot be judged by the current tests or measured by the ordinary marking system. In respect to things of beauty, love is the preliminary condition, love the constant aim, and how can the student prove to an examiner satisfaction the possession of a thing that can only be spiritually enjoyed?"

Discriminations may be successfully passed upon form, technique, history, melody, harmony, but those matters are mere accessories; they may assist in education to a certain extent, but a student may have them all at his command and at the same time be bankrupt so far as any real aesthetic concern is concerned. It is plain that courses that appeal to an innate capacity for music, and exact comparatively little in the way of investigation and analysis, must stand in a class by themselves, and they call upon educators at times they are most reluctant to do—that is, to take the results on

We expect a Musical Appreciation course to get equal recognition and credit with mathematics and scientific subjects, we must not allow it to be considered a "snap course" in High School. We all have seen a great deal of superficial work done under the name of musical appreciation. I remember once visiting a High School class where practically nothing was done other than the teacher playing a Victor record as she wrote the name of the selection and performer on the black-board. There seemed to be no interest for the choice of records played. The pupils were neither led to the form of the composition nor the skill of the performer. It

was just one way in which a pupil could get a credit without wearing on his brain. Such a performance might be recommended for a recreation period, but for a recitation in a subject receiving credit it was preposterous.

I feel that Musical Appreciation is so big a subject that it should have five full periods per week, five preparations, and equal credit with any appreciation course in English. Such a course requires a well chosen text-book for home study, several reference books in the library, a carefully selected library of player records and a thoroughly trained instructor.

Personally I feel that the teacher should be a pianist and a theorist.

In Bloomington we have chosen Henderson's "How Music Developed" for our text book. There is only one objection to this book. There are no captions to the paragraphs. We overcome this objection by outlining the chapters before the pupil's study period.

Perhaps Baltzell's "History of Music" is the reference book most used in our class. There should be a musical dictionary and a biographical dictionary within easy reach of each pupil. Any musical text book, however simple, uses a vocabulary with which High School pupils are unfamiliar. In planning our course we have tried to keep in mind that it is not to teach facts about music or musicians, but rather to build a firm foundation for a love of music, that is our purpose.

And now let me outline briefly the work we are attempting to cover this year in Bloomington:

First we took up Music of the Ancients.

That the ancient instruments might be appreciated as to their connection with the orchestral instruments of to-day, the modern orchestra was studied. Then the ancient instruments of Greek, Hebrew, Hindu, Chinese and European origin were considered each as to its likeness to our own instruments. Here we found the forerunners of the piano, the organ, in fact, of all our string, wind, and percussion instruments. Following lessons were on the ancient scales in comparison with our major and minor scales, ancient use of music, the evolution of notation and sources of rhythm.

In the second month we studied the Music of the Church as developed through the chant and mass, the birth of counterpoint, and polyphonic writing, leading up to the famous "Sumer is icumen in" which was sung by the class.

The Netherlands School was presented as the first agent to make counterpoint subservient to expression of feeling.

Our third month was devoted to Folk Music of all nations. The Victor book on "What We Hear in Music" gives fifty pages to folk music, and from this source we received much help. In connection with Folk Music came the music of minnesingers, meistersingers, troubadours, etc.

From this point we expect to bring out the influence of rhythm, melody and form of popular music upon church music, and the influence of the harmonic and polyphonic character of Church music upon popular, until we arrive at compositions of more modern character. This will lead into the study of opera, orchestra, organ and piano. In the study of the evolution of modern piano composition we are carried thro the dance forms, suites, sonatas, symphonies, etc., into the romantic or free form.

For a very clever method of presentation of both classical and romantic music, let me recommend Mrs. Fryberger's "Listening Lessons in Music." The last half of this book is very helpful in High School classes.

One day each week is spent on current events in music. "Musical America" and the music items in the Chicago papers furnish abundant material. The pupils are becoming acquainted with the present day artists and composers not only by watching their movements in the papers but by studying their Victor records. Special attention is paid to American compositions and American artists.

This being our first year of Musical Appreciation, our work is largely experimental. A year from now I may have an entirely different idea of a curriculum in Appreciation.

If at the end of this year our students are more desirous of attending good concerts, hearing good records, playing and listening to good music I shall feel that we have at least started in the right direction.

Discussion brought out the point that it is unwise to offer History of Music and Musical Appreciation courses at the same time, because the latter demands a considerable historical knowledge. In the main it was considered wise to combine some study of Musical History with Appreciation or *vice versa*. Exception was taken to Miss Glenn's curriculum as including too much, but upon consideration that the class recites five times weekly, the objection was withdrawn.

Next in order was the matter of "The Need of a Graded Course of High School Chorus Work" presented by Miss L. Louise Bear, of Decatur.

"Our chorus work today, while filling a large part of the time allotted to the teaching of music in the High Schools, is given only half-hearted recognition, and is not considered as equal educationally with other High School subjects. It is regarded as desirable enough to be given a place in the curriculum, but the study of music through the chorus is not thought of as something to be taken seriously.

Since music is an art, it is hard to define accurately just what results should be expected. The chorus work is of value, first, because of its influence for good on the emotional life of the pupil, and, second, because it helps him in forming a taste for what is best in music. But both of these values are hard to measure by the standards set up for other subjects. Something can be shown as a result of the training a class gets in reading music, in tone production, and interpretation, but even in these directions it is hard to measure the value to each individual pupil.

Our educators are asking, "Does it pay to take two hours a week to train students in singing?" Until we can convince them that those two hours are spent in real educational work, we cannot expect the same recognition for Chorus that is given other subjects. "Music is an art," they say, "and cannot be reduced to a graded system." But so is literature an art, yet it is systematized and by no means denied recognition as an accredited subject. English has a definite, outlined course of study, of which the study of literature occupies the greater part.

Why should we not have a definite outlined course of study for music in the High School which would contain a systematic outlined course for chorus work? This would not leave the choice of material and the amount of work done to each individual teacher. The English department outlines the literature for each year in the High School by semesters. Why should not the chorus work be outlined in the same way?

Too often in our Chorus classes we find a junior in a freshman class, or a sophomore in a junior or senior class, no matter how many semesters of Chorus he has had. This is because he finds it necessary to take his Chorus in any class at any hour he may have free. Imagine such a system in any other department. It would not be thought of, nor should such a condition be accepted in the music department.

We have a wealth of material for high school chorus work, but this material has never been graded. All of this work of grading is left to the teacher. Through the first eight grades we have some splendid systems of music books, some of which at least are well adapted to each grade. So far no one seems to have thought of a graded set of High School books.

Aside from the splendid material in octave form which is published for High Schools, we have a number of books for High School use, which contain much material of value, but each book has material suitable for all four years in the High School. That material would be much more valuable if it were arranged in graded form. Recently a very valuable High School book has been published which, besides the music, contains some interesting material on Music History, a short musical dictionary and portraits of the composers. This book would have been better had it been published in two volumes and the material arranged according to the grade of the pupil.

Having a course of study, and our classes graded as they should be, how can the Chorus hour be made to mean something definite and educational to each individual pupil. First of all, the classes should not be too large. At present in most of our High Schools, the music teacher is expected to handle two and often three and four times as many pupils as the teacher of any other subject. This condition should not exist. No class should be so large that the teacher cannot know each individual student.

Only a small per cent of the High School pupils take any music in the High School except Chorus. Here is where we get them all. Here is our opportunity, and it is a great one. Our aim should be to make our pupils intelligent musically.

In order to develop an appreciation of what is best in music one must be intelligent at least to a certain extent on musical subjects. Today an educated man does not deem this necessary. We hear the grossest mistakes made in public often by those who are leaders in other educational subjects and we pass them lightly by with a smile. How many of the teachers in our schools and colleges today can tell what a fugue is or the difference between a fugue and a symphony? This should not be so of the educated men of tomorrow, and the task of educating the men of tomorrow in music lies at our door.

With the Chorus work should be combined some work in Music History and Music Appreciation, so that the pupils may become intelligent about the music studied. The pupils of the Chorus class should be asked to bring note books to the class, and the notes on Music History and Appreciation given them in class be arranged in good form. At the end of the semester they will have a considerable amount of material, a review of which will prepare them for a test. In this way the pupil can be held accountable for the work he has had in class, and he will be much more apt to take that work more seriously.

Our educators today, or those who are studying the subject from all sides, tell us that High School pupils like best those subjects that require the hardest work. If this is so we should see to it that our Chorus work requires some real ability as well as some technical skill and natural talent. The pupils need not lose any of the joy that comes from singing together the beautiful High School music, just because we expect them to know something definite about that music. Rather there should be an added interest if the pupil finds he is getting something of value in an educational way about music.

Music is one of the fine arts, a wonderful art, and the time given to its study in the High School is all too meager. Even if a pupil takes all the music offered in the High School today, we can only hope to give him the merest insight into the music of the world. May the day be not far distant when with a graded course and graded material we may have the Chorus work recognized as it should be in our High Schools. Then we may hope to become a real factor in the educational world."

The discussion brought out a general agreement that two periods a week each for Chorus and Orchestra were, under present

conditions, about the proper amount in the High School. It was thought it would be well, at the beginning of each year, to classify all the pupils of the school according to their proper grades without regard to the class to which they belong.

An open discussion upon the "Prerequisites for the Music Courses which are to be offered for credit in the High School" brought out these points:

That a good theoretical knowledge of all keys and intervals should be required.

That the greatest handicap to the accrediting of Music is the lack of preparation on the part of the teachers (the regular school-faculty as well as the special teachers)).

That the subject is too involved for immediate consideration and should therefore be referred to a committee, to investigate and report next year.

The closing address was "What Can the Music Teacher Do to Help Win the War?" by J. Lawrence Erb of the University of Illinois.

War is a very serious business. We are in the habit of associating it entirely with very tangible and material things, such as cannons, munitions, food stuffs, and the like; but in a world war, such as this, where the most mighty powers on the planet are arrayed against each other, regard must be had for the intangible things which are none the less real. We have been in a habit of speaking about "the man behind the gun." At no time has the man meant so much, the gun so little. At no time has the morale of the army been more conspicuously before the world, and at no time have the military authorities been more keenly alive to the necessity of preserving or improving the morale of their men.

One of the first features to be brought to the attention of the contending armies was the necessity for making the men more comfortable and as contented as possible during the periods of rest between the awful days in the trenches. Every device that human ingenuity could invent was brought to the aid of the humblest soldier because the infernal nightmare of the trenches and No Man's Land would inevitably drive the best balanced man insane in short order unless counteracted effectually.

For this reason, even the most hard-hearted and practical among the commanders soon saw the necessity for entertainment: and the roll of musicians who have done their share in lightening the burdens and inspiring the hearts of the soldiers is a long and honorable one. The longer the war lasts, the more desperate it becomes, the more need will there be for singers or instrumental performers to go, if not into the trenches, at least as near them as they dare, with their message of cheer, of comfort and of inspiration.

But this is not all; for almost harder to bear is the part of the stay-at-home. The parents or the children of the men at the front or those who are connected with them by ties of affection are driven almost to the verge of madness, by the worry and anxiety about the fate of their "boys in the trenches." If ever a civilized world has called aloud for music, sweet music, appealing music, comforting and inspiring music, it is now,—not the ugly cacaphony or the clever *tour de force* of our latest futurists, but the kind of music which needs no explanation nor apology. Of such music,

which fortunately a great many people can make, there must be an abundance, not only in every community, but in every home and in every place where people are gathered together for any purpose.

The music teacher then, can help to win the war, first, by doing his full duty as a citizen, asking no immunities nor special privileges because of his art, but bearing his share (or hers) like a citizen "of no mean country." I would only allude to our privilege to bear of our share of the financial burden or to assume duties of a public nature which have had to be laid down by those who have gone to the front or have been called to positions of responsibility elsewhere. The reproach that the musician has no interest in the community or political life must be buried once for all under an avalanche of public service by the musical profession.

Then the music teacher can also do his share in connection with the more specific professional phases of his work. There are the cantonments where he may sing or play, or, perchance, help the boys to sing or play in glee clubs, orchestras or bands, if he has the opportunity. His awakened patriotism may express itself in community service. He may help the boys and girls, the young men and women, the men and women who "work for a living" to find utterance through the great art which cannot ever debase. He may "do his bit" by performing or leading others in a performance of music for patriotic occasions. He may volunteer to teach the children in the schools or the Sunday Schools, or the older people in the churches or the lodges or other organizations, the national hymns. If he has talent he may write new patriotic songs or arrange those already written for such combinations of performers as happen to be available. In fact, if the musician really means business, he can be one of the most useful and valuable men in his community.

For, depend upon it, unless all signs fail and this war is soon over, we shall need to cheer our souls with song a great many times before the clouds pass away. We shall need, not only to whistle, but to sing, to keep up our courage constantly. We shall need to send our boys off, hiding the tears which they must not see, and in place of sobs giving them songs to inspire them. And, last, and most important, we must not allow our spirits to sink to the level of the brute by nursing in our hearts the cruel wrongs which we have suffered or shall suffer from our enemies. We must not think of reprisals; we must scarcely even think much of our rights. In a great cataclysm such as this, somehow, somewhere, spiritual values must be emphasized. The mercy which tempers justice must be ever present. We must forget to hate in our efforts to learn to understand, and possibly to pity, the enemy who would wrong us.

We cannot escape the alternative. Either this war will be an unmitigated evil to the civilization which bred it and a black death to the hopes to humanity for years to come, or it will be a purging fire burning away the dross,—those materialistic labors, thoughts and preoccupations which have too much concerned us,—and bringing forward a new civilization, new ethics, a new sense of values. If the latter (and we all believe it will be so) every high-minded musician must endeavor to sound at all times, not only the note of patriotism which we must never forget, but also the note of brotherhood and of humanity,—the message perhaps of the Galilean,—the spirit of love for the sinner, no matter how we hate the ugly sin.

I know of no time when the musician can be more constructively and joyously busy than now and the days immediately ahead of us. There is so much that he can do that his greatest danger is that he may attempt more than he should. Let us take stock of ourselves and our resources, let us cast about us and see what our community needs and then let us patriotically do the task which is nearest and most urgent and do it with the whole heart and the enthusiasm which only the truly musical temperament can know. They tell us that music is the handmaiden of religion. Perhaps

it would be truer to say that music when it is not purely intellectual is a form of religion in itself, and we are its priests. This is our opportunity, this is our time to emphasize the spiritual message of our Art. Let us not be found wanting in the hour of crisis.

Afternoon Session.

The Annual Business Meeting of the Music Section was called to order by the Chairman, Director Erb, and Miss L. Louise Bear of Decatur, and Mr. Homer E. Cotton of Kenilworth were elected members of the committee for a term of three years. The election of officers resulted in the reelection of Director Erb as Chairman and Mrs. Elizabeth McNair of Mattoon as Secretary for the ensuing year. The Chairman was instructed to appoint committees as follows, to conduct investigations and report at next year's Conference:

History of Music Curriculum
Musical Appreciation Curriculum
Graded Materials for Chorus and Orchestra
Prerequisites for Accredited Courses

The Chairman made the following appointments:

History of Music Curriculum:

L. L. Carl, Belleville, Chairman
Mrs. Blanche E. Haughey, Maywood
Miss Mabel S. Warriner, Marion

Musical Appreciation Curriculum:

Miss Mabelle Glenn, Bloomington, Chairman
Homer E. Cotton, Kenilworth
Miss Clara T. Dailey, Peoria

Graded Materials for Chorus and Orchestra:

Miss L. Louise Bear, Decatur, Chairman
Miss Clara C. Renfrew, Monticello
Miss Maude B. Wallace, Normal

Prerequisites for Accredited Courses:

Prof. E. Earle Swinney, University of Illinois, Chairman
Miss Nettie C. Doud, Springfield
Miss Mary J. Maguire, Alton

The following report was made by supervisors of High Schools allowing credit for theoretical courses:

Harmony, five hours per week:

Bloomington, Bement, Marion Tp., Harrisburg.

History of Music, five hours per week:

Belleville, Proviso Tp., Marion Tp.

Musical Appreciation:

Bloomington, Harrisburg, Rushville, Westville.

These schools offer a *Composite Course* not accredited:

Geneseo, Decatur, Rushville, Gibson City, Deerfield-Shields (Highland Park), Westfield, Oakwood, Paris.

The following schools give credit for *Applied* (Practical) *Music*:
Deerfield-Shields (Highland Park), Bloomington, Decatur, Springfield, Evanston Tp., Rock Island, Peoria.

After an open discussion upon the topic, "Making the High School Organizations efficient," Prof. Henry V. Stearns of Illinois Woman's College, Jacksonville, read a paper, "Musical America: The High School as Its Nucleus":

In recent years much discussion has been given to the question of American music and the possibility of a national music in America. Such a discussion at first may seem to be purely an academic one, one without any far reaching effect upon the people or demanding serious consideration from a body of educators.

Let us pause to consider for a moment why these statements are true. If we accept the hypothesis that the art of a nation reveals in most intimate manner the inward life of that people we must at once awaken to the fact that the nation without a national art is one without an awakening soul, a nation without a consciousness of itself as such,—in fact, a child, without the intellectual stature and the spiritual development of full-grown manhood among nations. Yet such is the condition in which we find our own beloved country if we accept this diagnosis as a true one. Of national music in the accepted sense of the word, we find hardly a trace. The same might be said of national art, drama or literature, all due partly, at least, to the same general underlying conditions. It must be manifest then, that any study which tends to search the hidden causes and make plain the lack of our national life, is not academic and is of the highest importance to all interested in the future greatness of our country.

It need not be a cause for wonder nor be accepted as weak-kneed patriotism that one admit these things so frankly, for the conditions necessary to the awakening of such a soul and to the development of such a consciousness have been most strikingly lacking in our progress as a nation. There is at the foundation of our race, no single stock of mankind with century-long traditions on which to base a national consciousness.

Instead, the American people are the most strikingly conglomerate of all nations on the face of the earth, and the national tradition which we so dearly cherish, one of which we have developed in our own too brief 141 years of life. The very conditions, which in the past tended to make a unit of nations, have been lacking in our history. The struggles of the Revolution and the war of 1812 were rather those attendant on birth than on development. The Civil War, terrible as it was, was an internal struggle, while the Mexican and Spanish wars are too insignificant to claim our attention.

Placed in a land of almost unbelievable wealth of natural resources whose wide spreading domain is ample to house many more millions than now claim its shelter, there has been lacking the external pressure to compress us, to weld us into one uncompromising mold of Americanism. Now we are in the press, the world catastrophe which has engulfed all Europe has reached out and caught us in its maelstrom. We are fighting for our national existence, for our national ideals, for the right of all men to democratic self-government. It is indeed meet that at such a time we should consider the musical life of this country of ours, the ways in which it may

become conscious of its newly awakened national soul and the means through which it may adequately express it.

Some years ago in conversation with one of the leading musicians of the country, the question was asked, "When will we have an American National music?" Immediately came the response, "When the rank and file of the country are musical." To an inquiry as to whether this meant that the number of professional musicians in the country should be largely increased, the answer was "No," but whenever men, women and children the country over shall have an interest in things musical and a real appreciation for the best in music, irrespective of whether they play or sing or not." Such a condition may seem at first an impossibility in a country as young and crude as ours. Such a condition is an impossibility until the attitude of educators at large toward musical interest as a factor of tremendous importance in the cultural life of the country be changed.

Too frequently we hear upon the lips of those engaged in teaching the so-called Liberal Arts branches in our High Schools and colleges, the expression that to them music of any but the most popular type is a closed book and that there is no desire on their part to open the book and peruse the charming contents of it. Strange, is it not, that the men who look down on the musician who hesitatingly admits his lack of knowledge of the plays of Shakespeare, the essays of Bacon, the scientific researches of Darwin, the philosophies of Kant, John Stuart Mill and others,—not to mention such abstruse subjects as the sciences and mathematics,—strange, is it not, we say, that the man who finds the musician uneducated and uncultured because of this lack, unblushingly and frequently with an assumption of pride which ill-befits his cultural stature asserts that he knows nothing and wishes to know nothing of Bach, Beethoven, Schubert, Schumann, Brahms, Liszt, Debussy, Tchaikowski and others. We would not in this, argue that the musician is above reproach here, for we believe that the musician should be a more broadly educated man than ever in the past, but that the broadening should be shared equally by all.

Particularly is this of great importance in the High School. It is a trite saying of educators, well demonstrated by psychological facts, that the years of the High School period are the years of greatest receptivity of the student; the years in which the strongest impressions upon the mental and moral bias of the young men and women can be made. In grammar school the child is too young for lasting results, though there is much to be said concerning the influences surrounding the child in that period of development. In college the trend of life is already determined, though a great deal depends during the college years, upon the strengthening or discouraging influences which come upon the scarcely formed habits of the High School. It must follow then that in the High School we find the nucleus of the development of our nation and it is there that we must look more sharply to the influences, cultural and moral, which surround the child if we are to have the products in manhood and womanhood which we desire.

Nor can we expect the private teacher to bear the burden of cultural music alone, as the circle reached is too small. What we desire is not a limited coterie, an elite few, but that all the people shall be interested in music.

We must require of the High School teacher that he be genuinely interested in music as an art or a cultural subject and that his interest be actively displayed in the life of the school, in determining the conditions of the musical institutions of the school and their places in the social and recreational life of the students.

What then can we do to remedy conditions already existing? In all too many of our High Schools the music hour is looked upon by the students, particularly the boys, as an unmitigated bore; an hour to be spent in idling,

in active mischief or, if the boy is conveniently located in the rear rows of the room, as time to be spent in the active preparation of some more interesting subject. Obviously, a music hour of this type is of little value to the student and often a direct detriment to him.

What is the solution of this problem? Manifestly two things are at fault, the personality of the teacher and the way in which the material is presented.

The writer's own recollection of his High School music is painful in the extreme, when it is not ludicrous. Of actual musical instruction there was none; the parts for singing were assigned indiscriminately. Of training in part-reading and of sight-seeing, there was not a trace. The material selected, to a large extent, was uninteresting and the personality of the instructor anything but impressive. There are public school music instructors, the memory of whom goes with the student into life as efficient, strong and helpful teachers under whom the courses were in the highest degree beneficial; but these are the exception rather than the rule. We need, as teachers of public school music, men and women who are better musicians than their predecessors have been as a rule in the past, whose educational and pedagogical training has been broader and more sympathetic and who have a clear perception of the problems confronting the department.

We maintain that the system which gives to the student of music in the High School but one hour a week with a teacher who is present in the school but one day a week, who rarely learns to know his students by name and who never enters actively into their lives, is false. Equally false do we find the system that chooses a teacher because of excellent preparation in other lines of instruction and assigns the task of public school music to this teacher because somewhere or sometime she has taken a more or less elementary course in the rudiments of public school music.

This difficulty has in a measure been met by the State Board of Education in their higher requirements for a State Certificate in Public School Music. But the step which they have taken, though important, is only the first step on a long road. The stand of the North Central Association of colleges and secondary schools is perhaps, at the present time, too uncompromising. The remedy is to be found in the effort of certain colleges, throughout the state, which are including in their required course for the Public School music certificate, an increasingly large amount of regular college work, with a heavy emphasis on the pedagogical courses. Teachers with such preparation can fill in the entire schedule and thus have the benefit of close contact with the students and take an active interest in their school activities. When we have a large number of teachers, the product of such training, we may expect to find many of the difficulties satisfactorily settled by themselves.

But there are still other factors in the musical life of the child in high school aside from the instruction in public school music which must claim our attention, if we are to have the results which we desire in a musically interested public. First in importance perhaps, because it is an activity of the students themselves, comes the High School Orchestra. Too frequently the High School Orchestra is a haphazard organization, left to the tender mercies of the students and reflecting only their own imperfect conception of what is best and necessary for them in musical development. This we claim, is utterly wrong and a condition unparalleled in any other activity of the High School life. Athletics have their faculty supervisor; the Dramatic Club, if the school boasts such, has its faculty advisor, whose powers are almost those of a censor. Essay contests and debates, all are supervised by the departments represented, but when the musical programs for these various functions are under consideration we hear from the High School Orchestra the poorest type of popular music, often conveying to the students familiar with the texts, vulgar if not indecent impressions.

Should not then the High School Orchestra have a faculty advisor, sympathetic and keenly interested in music as well as intelligently led, who shall sympathetically and kindly bring the students to a realization of that which is best in orchestral music and give to them an increased appetite for it, through their own part in its production. Thus shall we bring the musical offerings of the school to the public, on as high a plane as its public occasions as the other departments represented.

Similarly the Glee Club, both boys' and girls', should have supervision and we believe there should be organized a High School Chorus, comprised of all the students in the school if possible, under the leadership of the public school music teacher, though the best result is sometimes derived from the leadership of some teacher on the general faculty who is competent and sympathetic as a conductor. This Chorus should meet regularly and study works, which while they appeal to the youthful imagination and love of rhythm, will give to it a conception and a glimpse of the true musical art.

Not less important than these is the further consideration of the status of music as a study to be received for credit both from private teachers and under certain well defined regulations and in the line of theoretical work in the regular High School curriculum. We are aware that the acceptance of the work of private teachers, for credit in an institution is almost academical heresy, but there are certain considerations which we wish to advance that seem to be of sufficient importance to outweigh such heresy. It must be apparent, at a glance, that the High School, at least, is not the place for individual instruction in Art of any type. The fundamental principle of the High School is class work, and until sufficient progress shall have been made in the class teaching of practical music subjects, aside from chorus singing, the including of such work in the High School curriculum is an impossibility. But these studies are of too great value to us as a nation in their utilitarian and their cultural aspects for us to neglect them for a moment. Manifestly then, the only solution for the problem is to devise a scheme such as is already in successful operation in Pittsburg and Boston accrediting and defining the work of the private teacher so that students with a musical bent may elect as part of their High School curriculum certain credits for practical study in piano, organ, violin or other instruments, as well as vocal study. We already give credit for class lessons in singing which, after all are individual in their application and certainly the case of free hand drawing of no greater utilitarian value though admittedly of equal cultural value with music study. In this respect drawing is fortunate because a silent study, while music unfortunately affects the sense of hearing so that the individual application in class work is almost impossible.

But aside from this question of the accrediting of work of private teachers there can be little discussion as to the value and necessity of including carefully worked out and systematically graded course of study in the study of Music, Harmony and perhaps in the more elementary aspects of composition. These subjects have already been accepted as worthy of collegiate recognition. Then why not in the High School? Aside from any questions as to the more far-reaching effects, it would tend to place the music of the entire school upon a higher plane and make secure the position of these studies in the collegiate system because of more adequate preparation in the secondary schools. This course should be carefully worked out with the assistance of specialists in the several branches represented, and with the careful preparation on the part of the Public School Music teachers that it will be presented by them, serving also the purpose of employing fully the teacher's time and in bringing her in close and more active contact with the student body.

In urging this we do not argue that the study of music is "as good as" that of mathematics, science, language, etc., nor do we wish to stress the

mental discipline it confers. Music is an integral part of cultural education, the education for which the High School stands. Without it a rounded education cannot be, nor can we expect that the products of our culture will be perfect when one branch of the subject is neglected. Credit for music by all means, but credit because of its own value and not as a substitute for anything else.

It is our firm conviction that every High School should have a talking machine of some kind together with a large number of carefully chosen records which should be used at regular intervals before the entire school body or in various graded groups for the purpose of appreciation and discussion. It was the writer's privilege to do such work in the High School, of a small city in the middle west, before the entire student body once every two weeks for a year. The attention of the students was remarkable, easily secured, and maintained without any difficulty. The remarks accompanying the records were simple but were illuminating and interesting, and the writer has every reason to believe the experiment was successful, for a number of High School students were in his department in a college in the same town, and questions and remarks made to the various teachers, as well as to himself by the students, indicated not only attention during the exercise itself on their part but thought and interest afterward.

Finally we believe that the High Schools should so far as possible, arrange to present to their students at various times, concerts and lectures by musicians of ability which would interest the students and present to them ideals toward which they might work.

Concerts and lecturers can almost always be arranged at very little or no cost, for musicians, at least a large number of them, recognize the importance of such work and are glad to give time and energy to the furthering of it. We, however, count this last as of the least importance, indeed, would consider it as almost useless were it not accompanied by other forms of work already mentioned.

The issue of the war can be but one. No matter what it costs in men and resources democracy must triumph, autocracy must go. America must emerge from this fiery test a unit, a people undivided, one race under one flag with one allegiance and one country. To America must fall more than to any other nation in the world the task of raising this democracy, this ideal of human government which is to be the common lot of all after the storm period has passed, and she must see to it that her expression of this message is adapted to the message. No half hearted accents will pass; no pale imitations of continental countries will do. It must be her own message in her own idiom, bearing her own experience, the fruit of her own sacrificing and suffering.

We cannot think of this message being uttered by our dramatists alone or by our painters or writers without the musician having equal part in it. The creations of the poet and dramatists must have music welded with them to express fully that which we have come to believe.

We cherish the Germany that is gone because of the imperishable musical message which she has left us. We could not do without it, but it is our duty to see that the America that is to be, shall have a musical message as perfect in form as it is superior in content, speaking as it does, the higher ideal of human existence than that of the old world which it is destined to supplant. This, then, is the task of the High Schools and of the teachers of music in the High Schools. That through the education of our young, to the highest and noblest musical ideals this message shall find its perfect means of expression and Musical America find its nucleus in the High School.

The concluding paper of the Conference was one by Miss Amelia E. Deneweth, of Champaign, on the subject, "Saving the Students' Voices":

The question of "Saving Students' Voices," is certainly a vital one and should be uppermost in the mind of every conscientious teacher. The ideal of the old-fashioned school singing-master was simply one thought,—of technical achievement. To read notes fluently, to be able to sing melodies and to sing in parts at sight, in time and tune, constituted the highest flight of the singer trained by the singing school methods.

Possibly our modern ideal is not perfect, but be it as imperfect as it may, it demands that along with the musical mind the voice be trained, so that at least the mature voice be not destroyed. No real teacher will or does tolerate the unmusical, unnatural singing which was once universal in a school room. Even the old belief, that the voice must not be trained before maturity, can no longer stand in the way of the rational training of children. It is too true, if the voice is ruined in childhood, it cannot be trained at maturity.

George Chadwick Stock, makes this statement: "If voices had received proper attention in youth, they would have better resonance, be better placed and of finer quality." As "The child is the father of the man," so the voice of the child is the parent of the mature singing voice. It is good or bad according to early environment and development. Although improvement can be made in a voice suffering from the effects of improper use, its growth will be much slower. A satisfactory outcome is less certain than in cases of voices that have been well preserved and cared for during the early years of life.

While the singing of children lacks the qualities of an adult, all good singing is essentially the same. The beautiful, clear, pure tones of an immature voice are developed in the same way as the mature. Normal tone quality, which in most children is sweet tone, can usually be obtained by appealing to the child's sense of the beautiful, seconded by a constant stimulus of thought and feeling.

Some children in trying to produce good tones, are handicapped by physical and mental conditions. When I find a child unable to hear or produce tones, the first thing I do is to examine his or her throat. There are often these conditions: (1) Bad state of the throat and nose; (2) Not using their voice correctly; (3) poor sense of pitch; (4) Habits of loud singing.

The presence of adenoids and other growths, catarrhal trouble, habits of mouth breathing, all tend to encourage husky and nasal tone quality. During my experience as a teacher, I have, through the pupils' faulty singing, discovered conditions in children not known to their parents. Often intemperate shouting, screaming and singing in the open air, may cause the husky tone quality, as well as other conditions.

Medical attention in childhood has often saved the voice. As Stock and other writers have said, "The quality of the child's voice is naturally the result of environment as well as of inheritance." A child who hears sweet singing and pleasant speech will naturally sing sweetly and speak agreeably. Soft, sweet singing voices are the result of soft, sweet speaking voices.

Habits of good speech must be insisted upon by the teacher first of all. To be sure, we supervisors cannot do this alone; we must have the support of the grade teacher, or our efforts may be in vain. So interdependent are song and speech, that more than one authority on the voice has said, "He whose speech is perfect, whose ear is good and whose method of breathing is sound, can sing." Many times this question has been asked me, "Do you think it is true any one can learn to sing?" My answer is always this, "Yes, if one has been properly trained in childhood." A superintendent upon visiting my class one day, remarked upon the close of the period, "I noticed you had no monotones." "No, not now, but I had what you call monotones, when I began work in these rooms; but by diligent work on the part of all concerned, we have overcome that." "Why," he said, "I supposed when once a child was not able to sing, it never could." This superintendent probably was not unlike many more who have had the same thought. When once a child feels the sensation of a correctly placed tone and he realizes it, it is

very interesting to note how happy he is and how hard he will try to overcome his old habits.

I have often found it helpful in working with children in trying to place their tones, to place my finger directly back of their ear, then push forward to the top of the head. Invariably a child will carry its voice right on up with the movement of my finger. Another point I always try to bring out to them, is the fact that tones are not in the throat but in the head. I always say, "You must forget you own a throat; sing as if the tone was coming out of your eyes." It is really very surprising how quickly they fall in with you and will say, "It did seem as if it came from my eyes, and I never knew we didn't sing in our throats," etc., etc. I carry this sort of work through all grades, even during the adolescent period, working with my boys so they are able to sing pure head tones. Having understood what I mean, by singing with pure tones in the lower grades, it is easy for one to make them comprehend when you say, "Do not sing in your throat, then it won't hurt you." A boy will say, "I cannot sing very high, for it hurts me, and my voice breaks." After working with him for a short time, telling him to think of the tone coming from the top of the head, and not from the throat, he grasps the idea and is well satisfied.

Some of the boys in the eighth grade whose speaking voice is changing, are able to sing high "f". These boys sing soprano, thus keeping their voices high. Others, whose voices are not so high, sing the alto. To be sure we have boys in the Grammar grades whose voices have fully changed, so they may carry the low part. However, I make a test of their voices about three times during the school year, for changes take place, and unless we are watching, serious trouble may occur. In this way I have had several tenors develop, whose voices would otherwise have been low,—at least, this is my impression.

In High School, I have organized a chorus of the younger boys, whose voices have not settled, thus preparing them for Glee Club work, with parts, later on. I also have a "Boys' Glee Club," with a membership of 24. The tenors in this are nearly all boys I had in the eighth grade, whose voices were kept in the register in the way I have just described.

This in brief is my method of trying to "Save Students' Voices."

PHYSICAL EDUCATION SECTION

(Minutes of Meeting)

Mr. Roy Fargo, presiding.

Announcements of changes in program.

Mr. John Rothacher of Deerfield-Shields High School, Highland Park, appointed by chairman to write a brief report of the meeting.

Introductory speech by Mr. Fargo on the great need and value of Physical Education.

Words of greeting—Professor Hollister.

Paper by Miss Clark, Director of Physical Education at State Normal University, Normal, Ill.: "Problems and Possibilities of Physical Education in Schools not Equipped with Gymnasiums".

Dr. Helen Putnam, chairman of Committee of American Academy of Medicine on Teaching Hygiene, Providence, R. I., presents plan for competitive health campaigns in High Schools.

Questions and discussion.

Discussion of Miss Clark's paper.

Paper by Principal H. E. Brown, New Trier High School, Kenworth, "Care and Control of the Swimming Pool".

Discussion.

Business Meeting.

Moved that Mr. Fargo continue as chairman.

Moved that present Conference committee be retained.

Moved that a committee be appointed by the chairman to report on plan suggested by Miss Clark to form an Athletic Association for High School girls.

Adjournment.

LOUISE FREER,
Acting Secretary.

PROBLEMS AND POSSIBILITIES FOR PHYSICAL EDUCATION IN PUBLIC SCHOOLS

Miss Lydia Clark, Normal

When I undertook the task of writing this paper I was asked to discuss *Problems and Possibilities for Physical Education in High Schools and Elementary Schools Where Gymnasium Equipment is not Available.* As I considered the problem other problems and questions arose in my mind and I have attempted to answer those and have dismissed the original subject in rather a hasty fashion. I have discussed and attempted to answer in general way three vital questions which confront those who are interested in physical education in Illinois. Let me state these questions briefly: (1) What are we to do when comparatively untrained teachers are assigned to teach physical training? (2) What are we to do when we have no gymnasiums? (3) What are we to do when we have no provision for doctors to take charge of the physical examination of students? These are the questions to which we must find a solution, and just as long as the physical educators in this state allow the school boards and communities to remain in ignorance of the aims and ideals of a sane physical education we shall continue to face the questions and conditions which confront us today.

We need a definitely planned campaign to educate communities until they become impressed with the need of a well-organized system of physical training which shall be supervised and directed by well-trained men and women.

We have a law in this state which requires that physical training be taught for one hour per week in all the public schools in Illinois. People should be made familiar with this law. It should be interpreted and explained, and a plea made for a commissioner of physical education who with a corps of well-trained assistants will have supervision of the work in this state. New York is now putting into effect a plan on this order for the entire state. We are a long way from this goal and until we obtain a start we must look the situation in the face and consider how we can answer the frantic appeals which come from the unprepared teachers who have neither training nor equipment with which to work.

One of the first requirements is that we put out of our minds the thought that physical training consists only of a series of exercises, games, and dances, which may be shown off at a meet or public demonstration. When we have done away with this exhibition idea we must substitute careful consideration of what we can do to make the students strong, vigorous, healthy-minded men and women.

Let us consider the health situation in the average high school because it is absolutely necessary that a health survey of the student body be conducted before any practical work in the gymnasium or on the athletic field be attempted.

My knowledge of the condition of health which exists among high school students is gained from the physical examinations of the entering students at the Illinois State Normal University. We examine from three hundred to three hundred and sixty young women each year, the majority of them coming from the high schools in Illinois. In order to give you some notion of the health conditions I am going to quote a few figures which I have taken from the set of examinations which were held this fall:

Defective vision, 84%
 Impaired hearing, 2%
 Severe exaggeration of antero-posterior curves, 39%
 Lateral curvature, 88%
 Flat feet, 18%
 Habitual constipation, 8%
 Defective and unclean teeth, 15%
 Enlarged and rapid pulse, 2%
 Rapid pulse, 15%
 Girls obliged to take lighter work, 9%
 Girls not able to take practical work, and so put on special program, 2%
 Painful menstruation, 12%

A large number of these defects should have been corrected before the girls reached the normal school. A health survey in the High School would have remedied this.

The physical examinations should be conducted by a physician, but very often it is impossible to convince the school board of the grave need of this and a greater part of the examination must be performed by the instructor; this is unfortunate but on the other hand many simple tests and a series of questions will often bring to light defects which can be remedied and the working capacity of student thus increased. Again the physical condition will warrant a change in the student's schedule, and the physical work should necessarily be of a lighter nature.

Whoever conducts the physical examinations should secure a set of health history cards which contain questions relating to the health of the students, past and present. Each student should be given a card to be filled out at home and brought to the examiner at the time of the examination. This will serve as a basis for further questioning concerning the physical condition of the student.

A thoughtful earnest person who has a background of anatomy and physiology should be able to give the following tests:

- (1) Vision and hearing.
- (2) Posture, and note indications of lateral curvature.
- (3) Symptoms of adenoids and tonsils.
- (4) Rapid pulse.
- (5) Defective teeth.
- (6) Indications of anaemia.

By questioning, the examiner should be able to discover and also to give some simple hygienic rules which will be of benefit for the following conditions: habitual constipation, menstrual disturbances, backaches and nervousness.

The technique of the hearing and vision tests may be acquired by a careful study of "Methods of testing School Children for Defects in Vision and Hearing," a bulletin written by Mr. Harvey Peterson, which may be secured free from the Illinois State Normal University.

Miss Bancroft's book on "The Posture of School Children" will prove invaluable to the teachers who are interested in physical training. The posture charts which are published by the American Posture League, New York City, will be found very helpful as a means of stimulating interest in posture among elementary school children.

It seems necessary at this time to say a little about the value of discussion concerning posture at the time of the physical examination. Results cannot be gained entirely thru the practice of physical training and

much may be done at the time of the examination to impress the student with the necessity for erect carriage. This stimulus will often mean that the student will work on her posture outside of class and soon gain the habit of good posture which she would fail to do had she depended entirely on the class work.

Nothing brings one's standing position more vividly to one's mind than the reflection from a couple of mirrors so arranged that the profile as well as the back view is plainly shown. This device we have found invaluable during the examination. After the student has been shown her standing position we help and show her how to assume a correct well balanced position. Then tell her to relax. This little drill of assuming and losing the correct position should be repeated until the student can assume the erect position with some fair degree of ease and knows the feel of the erect position. The time spent on individual posture work will bear fruits when the gymnastic work is taken up.

I have been discussing chiefly at this point the exaggeration of the antero-posterior curves of the spine which is characterized chiefly by round shoulders, forward position of the head, and a hollow back. The lateral deviation of the spine cannot be correctly diagnosed by an untrained person, but with a little slight training it will not be found difficult to note inequalities of shoulders and hips. When this defect is noticed the student should be questioned as to her habit of standing or the way in which she carries her books. It will usually be found that she has the habit of standing on one foot or of always carrying her books under one arm. When such habits are discovered, it becomes a matter of interesting the student in forming the habit of correct weight bearing and of carrying an equal number of books under each arm.

Diagnosis of foot conditions is not difficult and with some practice a person with a little training will be able to note the worst cases. I have found that despite the fact that women are wearing such unhygienic shoes they are interested in learning where they can secure comfortable good-looking shoes. Often atrocious shoes are worn simply because the local shoe dealer carries no other line.

Discussion of the symptoms of adenoid and tonsils will be found in any good school hygiene and the teacher should be able at least to pick out the worst cases from study of this book.

I hardly think it necessary to discuss the importance or the simplicity of taking the pulse rate and insisting that any student with a pulse of over 90 consult a physician.

It has been stated that a physician should conduct the examination; where this seems impossible the instructor should insist that each student who is to take part in athletics should have an examination of heart and lungs and should bring a written statement saying that the student has had such an examination and whether or not the doctor considers the student physically able to take part in the sports. This method while unsatisfactory in many ways will protect the student as well as the instructor—the former from possible strain and the latter from criticism should any injury occur.

Instructions concerning the immediate personal hygiene of the student should be given during the examination. It is surprising to find the number of persons who bathe but once a week, or less often, who fail to open their windows at night, who neglect their teeth, and are careless concerning their diet; a few timely words on the occasion of examination will very often prove of value.

In the past physical educators have spent a great amount of time and energy in taking girths, strength tests, and obtaining records of the health of their students; but after the completion of their work the records have been carefully filed away and no use made of them. This is a useless waste of time and energy. The records and recommendations which have been obtained during the examination should serve as a basis for the practical

work. All the defects noted and recommendations made at the beginning of the year should be carefully followed up and a record of the results gained should be tabulated. For instance students who have been found to have defective sight should be persistently followed up until they have consulted an oculist. The same is true of all defects and recommendations made during the examination. Physical educators have no right to demand recognition and cooperation from school authorities until they can show progress and actual results obtained from their work.

We have now come to the point where we must consider the type of work which will make for an all-around development. The time devoted to physical training is short, at best; we find four thirty-minute periods the maximum in the secondary schools, while the time in the elementary schools is never more than twenty minutes daily, usually much less. With this amount of time at our disposal we must give gymnastics, dancing, and games; no one of these phases should be omitted as each has its special value in the body training.

Before I discuss these various phases of the work the question of what we should do when there is no gymnasium should be considered. In the elementary school the work must be given in the room or halls; if the weather is good the class should be taken out of doors. The work should be given at least fifteen minutes daily and should include gymnastics, games, and folk dancing. About five days should be spent on one gymnastic lesson, alternating with a game and a dance making the series cover about two week's time. The seasonal plan is advisable for high school work; that is, the fall work should be carried on out of doors as long as the weather permits and sports and games should predominate. The winter work should consist of gymnastics, folk dancing, and group games. The spring work should be given out of doors and some seasonal sport like indoor base ball be used. When there is no gymnasium in the high school the work should be given at least three times a week in the class room and the thirty minute period divided into ten minute periods scattered thru the day. The work must necessarily consist of marching and gymnastics and some dancing which must be modified to fit the room conditions.

There is not time to go into the relative merits of the different systems of gymnastics; many controversies have been waged over the various systems when the time had much better have been spent in discussing the ways and means of meeting the conditions and the technique of teaching. Had this been the case gymnastics would probably be taught more sanely and scientifically today.

There is a current notion among educators and students that gymnastics is more or less a remedy for the evils of school-room conditions; consequently the work is attacked by teachers and students with dislike and reluctance.

Dr. Skarstrom discusses this side of the question in "Gymnastic Teaching" and says, "To justify the claims of gymnastics for recognition as an integral part of the school and college curriculum, it behooves the gymnastic teachers to make the work appreciated at its true worth by both teachers and school authorities. They must infuse into it an element of life and enthusiasm that will make it interesting and enjoyable to the pupils; enjoyable not as fun or play (except in the case of young children), but through the sense of exhilaration and satisfaction of doing something worth while, something which is immediately and permanently beneficial; which is beautiful, because vigorous, effective, and well done, something in which a number of individuals work together in unison, each reacting on the other and each having a share in the success as a whole.

Educators must be convinced, by the results obtained that gymnastic work is something more than corrective exercise; that its true function is to serve as a means of subjective motor education in which posture education is included and emphasized; that it is capable of being used intensively and systematically by procedure and methods suited to educational institutions."

I shall take the liberty of using a further quotation and give you Dr. Skarstrom's explanation of the nature of this gymnastic work which runs as follows:

"It should be of such a character as to require and train power of voluntary attention, a sharpened kinesthetic sense, the habit of quick and accurate response to motor stimuli. It should offer and demand correct solution of definite motor problems, involving precision, speed, balance, quick and sure weight adjustment, rhythm. It should conduce to erect bearing by requiring a good posture in all exercises, and by including a number of exercises in which the muscles responsible for good posture are given vigorous and sustained work under varying difficulties, all with a view to increase the tone, endurance and localized control of these muscles, and cultivate a good posture sense."

The so-called Swedish movements answer these requirements better than any other, in that they are clean cut well defined and capable of being broken up into parts. Movements of this type should be given rhythmically but in such a fashion that each part of the movement is clean cut and the muscular contraction is complete.

The Swedish method of following a lesson plan each day which is so arranged that all parts of the body are exercised has not yet been improved upon. The work should be planned so that there is progression from day to day and from week to week, as haphazard and unprogressively arranged gymnastic lessons will lead to disorganized class work.

Care should be taken to bring into each lesson a few movements of a general nature in which a number of large groups of muscles are rapidly and repeatedly contracted. The so-called mimetic work which imitates the occupational and sport movements, such as wood chopping, raking, rowing, etc., I have found are enthusiastically received by classes and are a valuable aid in quickening the circulation and deepening the breathing, while a considerable degree of body control also is secured.

We may conclude from this superficial discussion of gymnastics that they form a means of body training which, with the short length of time at our disposal and the large groups of people to handle, can ill be dispensed with. The movements although artificial serve as a short cut in the training of the body, but must not be used to the exclusion of folk dancing and games.

Little need be said in recommendation of folk dancing. This popular form of exercise has come to be so well established as part of physical training that it will not soon be replaced.

Games offer valuable moral and social training in both the elementary and high school. We should start in the lower grades and give the children a knowledge of games which may be used on the playground. The old games, prisoner's base, pom pom pull away, hill dill, and the like should be a part of every child's play knowledge. In the upper grades the more highly organized games such as dodge ball, newcombe, volley ball, and end ball should be given. Many of the last named games together with captain ball will prove popular and be played with interest by high school students although basket ball always claims the greatest popularity.

I should like to say a word here about the tendency in high schools to teach sports to a few. Often, the greater part of the instructor's time will be devoted to the coaching of a few teams, from twelve to twenty-five students—while the remaining student body receive little or no systematic training. This situation is deplorable. We must work away from the training of a few and substitute a system which shall include the training of the entire school, girls as well as boys.

The work which has been outlined up to this point demands a trained physical educator, but we are facing a situation where the majority of the teacher's training consists in some little college or normal work which is decidedly inadequate for the appointed task. I can see but one thing for these instructors, and that is to secure books on the theory and practice of

teaching and follow these as intelligently as possible, keep the health point of view in mind, and attend summer schools where they may secure courses which will be of benefit.

Before closing, I have one more suggestion to make which relates to girl's athletics. The problem of interesting boys in games and sports is an easy matter, but when it comes to girls, we are dealing with an entirely different situation. Girls must be urged and stimulated to play out-of-door games, and every obstacle which appears to hinder the sport must be removed. The Camp Fire Girls organization has done much to encourage life in the open, but is an organization out side the control of the school. Would it not be desirable to have an organization in this state which would tend to promote health and athletics in the schools? Such an organization would be a State High School Athletic Association for girls with the main branch at the University or Normal School.

The object of the association would be to promote interest in health, in sports within the school, and in out door life. In order to become a member each girl would have to win a certain number of honors or points in avrious activities such as first aid, sports, games, dancing, etc. After she became a member the incentive for winning extra points might be given through the securing of class numerals, or for a larger number of points the right to wear the school letter.

An organization of this nature known as the "Oregon Trail Girls" has been in operation for a number of years in the state of Oregon, and is, I understand most successful. The details of the Oregon organization would not be practical for the middle west, but that is a matter which could be worked out to fit this locality. I should like very much to see a committee appointed who would consider the matter, and if they deem the thought worthy of consideration draw up a plan for such an organization which would have as its goal the promotion of health, interest in out-of-door life, and sane living among the high school girls of Illinois.

CARE AND USE OF THE SWIMMING POOL

H. E. Brown, New Trier Township High School

The swimming pool has become an accepted institution in a great many of the more progressive high schools. The problem of its use and maintenance is a most important one. The possibilities of indoor swimming pools becoming unhygienic are very apparent when one considers the intensive usage and very limited body of water and lack of sunlight, ventilation and other forces operating in self purification of outdoor waters. The fact that bathers cough and spit, that their nasal, ear and other passages come in contact with the water make the possibilities of infection from the water very great.

Methods of keeping the pool clean and free from dirt are also of great consequence. Of course no pool can be absolutely safe. No place, whether swimming pool or anywhere where large bodies of people congregate, is absolutely free from contagion. Some one has said that it is very doubtful if any one could live in an environment entirely free from undesirable germs. It is undoubtedly true that a healthy person is one whose person is insured to disease through resistance. Possibility of contagion and infection is much greater in the winter than in the summer when large bodies of people are gathered together in moving picture shows, theatre, etc.

The construction of the swimming pool, first, should be put in the hands of an expert. The ordinary architect does not understand fully the needs and requirements of a pool. The shower baths to the pool should be ample to take care of the maximum needs and so located as to be most handy to the bathers. Bathers should be compelled to pass through the shower bath where the water is flowing with some force before entering the pool. The pool, of course, should be lined with white, smooth tile or brick, and the bottom and sides should be free from all obstructions and should be furnished

with a slight elevation around the edge of the pool so as to help drain the approach to the pool. It should be furnished with an overflow scum gutter. It should be well lighted and heated to about 90 degrees four feet above the water.

Most of the swimming pools today are poorly ventilated and poorly lighted, due to the fact that they have been located in the basement, or occupy space that could not be used adequately for some other purpose. This is a short sighted policy. In the construction of the pool a most important consideration is ventilation and light. Nothing can act as a sterilizing agency so quickly and effectively as sunlight.

All pools should be furnished with a vacuum cleaner for the removal of lint, hair, and any precipitate that inevitably collects on the sides and bottom of any pool. This is a most important aid to pool cleanliness, especially in those pools in which re-circulating system is used or disinfection by violet rays or chloride of lime are used as a germicide.

Where water is inexpensive the pool should be emptied frequently and the walls scrubbed. Where the water is expensive, the re-circulating system is of the greatest advantage, and with the aid of a vacuum cleaner the pool may be kept free from particles of dirt that accumulate. The ordinary water provided for household purposes by municipalities is satisfactory for swimming pools. This water, however, should be filtered thru the ordinary quartz sand filter, the steel pressure type, and heated approximately to 75 degrees and the re-circulating should be practically continuous, certainly the pumps should go frequently enough to keep the water absolutely clear. This, with the aid of the vacuum cleaning system, will make the pool appear entirely acceptable as a place for swimming.

The steam pipes for heating the room should be placed as near the floor as possible in recessed compartments protected by means of wire screening to protect the bather from contact with the hot steam pipes. It is very essential, of course, that the pool room should be heated to a uniform temperature so that there should be comparatively little shock to the bathers in going in and out of the water.

A drinking fountain should also be built in a recessed wall. The walls in the natatorium should be free from obstructions because of the necessary slippery nature of the footing and liability of accidents.

A swimming pool should be at least 60 feet long and preferably 25 feet wide, with a depth of not less than 8 feet at the lower end of the pool and two to two and one-half feet at the shallow end.

With the recirculating system the water may safely be left in the pool, so far as cleanliness is concerned, for several months. There will be some loss of water daily, due to evaporation and due to overflow in the scum trough, amounting in a pool of 70,000 gallons, to five or six thousand gallons a day. A record is had of pools having been used continuously without complete change of water for a six months' period. At first sight it would seem that a pool which is cleaned and re-filled bi-weekly would offer a much safer water than one where there is constant re-filtration. However, it has been demonstrated that the number of times a pool is filled bears no relation to its safety because of several other factors. Water is contaminated very easily as can be demonstrated by bacteriological count; the bacteriological count increasing remarkably from day to day up to the third day. Other things being equal, in water which is constantly being re-filtered the bacteriological count will not increase so markedly as in the intermittent filling scheme. The re-filtration scheme, besides saving water, saves a considerable amount of heat. It is necessary to raise the temperature of the water up to 75 degrees each time the pool is completely refilled.

However, neither system of water change is satisfactory unless there is constant sterilization of the water. This sterilization may be made in several ways, the most effective way, perhaps, by the use of ultra violet rays. By this method water is passing so that all the particles come in contact with the ultra violet rays, the germs are destroyed, and the water is sterile

and safe. Most pools now in existence, however, do not have the ultra violet rays attachment and recourse must be had to the sterilization by means of chemicals.

There are two chemicals in rather prevalent use. At the New Trier high school natatorium experiments have been made with both copper sulphate and chloride of lime. Copper sulphate is an effective sterilizing agent, but has no bleaching power and discolors the water to a considerable extent so that bathers feel disinclined to enter the pool. All particles of hair and lint in the pool are seen very freely, and the constant recirculating of the water does not serve to keep the color of the water uniform; therefore, copper sulphate, although considerably cheaper than chloride of lime, was discarded as a sterilizing agent. Most pools which do not have the ultra violet rays use chloride of lime, although free chlorine has been used to some extent. Objections to the latter are that chloride affects the membranes of the eyes, ears, nose and throat and irritates the bathers. The amount of chloride of lime a day to 70,000 gallons, varies with the number entering the pool. The proportion should be 20 lbs. to 1,000,000 gallons of water. It has frequently been said that a proper amount of chloride of lime introduced in the pool will make the water more free from contagion than common drinking water. The chemicals should be supplied in pound cans only because of the rapid deterioration of chloride of lime if exposed to the air. This chloride of lime should be introduced to the pool direct rather than by means of synchronous pump working with an accumulating pump in a continuous filtration system. While this latter has decided advantage of mechanical control, the test has shown that the introduction of chloride of lime direct has a more beneficial effect, due to the fact that concentration in the pool is never so high as when it is introduced a pound at a time, and also due to the fact that hypochloride of lime introduced into the pool at the end of a day's swimming has adequate time to react fully before the pool is in use next day. Continuous introduction of chloride of lime keeps the swimmers in contact with fresh solution and swimmers may complain of odor and taste.

The best method of introduction is by means of a perforated can around which a piece of cheese cloth is tied attached to a long pole, and the can is dragged back and forth through the water until the lime is thoroughly dissolved. It should be done at the end of the swimming day. Even then occasionally the bathers will complain of smarting of the eyes, because of presence of free chloride. This can be remedied by chemical tests. A bacteriological test should be made frequently, at least two or three times a week in every pool in order to insure a margin of safety. First, because there is real danger of contagion, and second, because especially when a pool is first introduced into a community, all forms of contagious disease originating in the mucous membranes of the head and prevalent in a community will be attributed to the pool unless this bacteriological count is made and evidence is at hand to disprove the statement. Bacteriological test should be made for *B. coli* and gas producers. The indol test should also be made. The amount of chloride of lime introduced will be regulated according to the tests. I cannot be too insistent on the bacteriological tests, and if anything is valuable in this paper, the insistence on bacteriological test is the most valuable.

The swimming pool is a place for exercise, not a place to take a bath. This should be impressed over and over again and should become a matter of education to all those using the pool. A preliminary shower bath, with free use of soap, should be rigidly enforced. Most of the contamination comes from the lack of this thorough preliminary shower bath. The need of education in this regard is much more necessary on the part of girls and women than it is for boys and men. In the first place, the boys and men use the pool without suits, where thorough inspection may be made by the attendant. This is more difficult with women as they will have suits on and it is very hard to persuade them to take a thorough bath before entering the pool. Frequent lectures should be given by physical training directors and others on the necessity of thorough bathing before entering the pool.

The nose should be clear; the armpits crotch and organs should be thoroughly cleansed. There should be a lavish use of soap and warm water, gum should be removed from the mouth, a foot tub and brush for feet should be provided and their use encouraged. Most of the women bathers will insist on taking a shower bath with their suits on, thus making it very difficult to have a careful soap and hot water bath and get the best results. With education, the women and men may be persuaded that the swimming pool is a sort of gymnasium for a special kind of exercise, as most gymnasiums are, and not a bath room.

Suits worn by the women should be a one-piece gray cotton suit with short skirt, no stockings and no arm coverings. The girls should be required to wear rubber caps and not allow the hair to protrude.

A rigid inspection of those entering the pool should be made by competent authorities, either by a physician or by athletic directors, and all those excluded immediately who show any signs of infection, abrasions of the skin, colds, coughs, running noses and sore throats. A running nose is one of the earliest symptoms of a good many contagions. Very much may be done by an able management, and by systematic education designed to create a knowledge of proper sanitary conduct. A sense of responsibility for the wholesomeness of the pool, the danger of expectorating in the pool should be brought to their attention. "Every director of the swimming pool should, as one of his personal rights, insist on the aid of bacteriological tests in determining the efficiency of his methods," says Mr. W. Lee Lewis, in his most illuminating article read before the Medical Association on "Some Methods of Pool Control." The appearance of the pool may be very deceptive as to safety. By bacteriological tests alone can the degree of safety be determined.

One of the most difficult and irritating matters to control is the matter of furnishing towels and cleaning the suits. If the towels are too attractive, pupils are likely to take them off as souvenirs; if they are too poor of course they wear out quickly and they must be replaced very frequently. The cost of having a quantity of clean towels is considerable. We find that it takes practically the time of one man to keep the pool clean and in good condition and keep an adequate supply of clean towels on hand. After each bath the suits should be washed, sterilized and dried. The towels should be used once by each student, then washed, sterilized and dried. The best apparatus for cleaning the towels may be secured from the American Laundry Machinery Co., or the Troy Laundry Machinery Co., or any company of good standing in the community, and should consist of a cylindrical washer, tumbler dryer and centrifugal extractor.

We have found that the best method of keeping track of the towels is to have them plainly and conspicuously marked. For some years we required those pupils who use the pool to furnish their own towels, but they were very difficult to keep track of. As the number in the pool increased from time to time, we have come to the conclusion that it is a matter of economy and saving of effort to have the school furnish the towels and see that they are returned after each use.

While people are using the pool it is obvious that an attendant should be always on hand. The pool should never be left with anybody swimming in it without an attendant being present and in complete control. The value of this precaution is quite obvious without any further comment, and it is quite necessary to insist on complete compliance on the part of the director with this regulation. This is for the protection of those who are using the pool, as well as the protection of the school itself against justified criticism.

It is well to make a general ruling in your school that every student should be taught swimming, and it is a very simple matter to enforce this regulation. Of course pupils should be excused from the pool by request of a physician, without question.

One of the difficulties that will develop in the use of the pool is the limited time given of necessity to allow women and children to dry their

hair. Especially will complaint come about this matter in the winter time. One should excuse girls from the pool very freely when request comes from home on account of colds which pupils have contracted on account of wet hair. Individual hair dryers are something of a protection, but the best kind of hair dryers cannot be furnished in sufficient quantities to take care of a large swimming class of girls. Therefore, there should be an insistence that all the girls and women wear rubber caps as the best possible protection against danger of colds from this source.

I wish to acknowledge the great assistance I have received in the preparation of this paper from Mr. C. A. Hyatt, director of swimming at the New Trier High School, as well as various papers and publications that have been issued from time to time. One of the most valuable of these is the paper delivered by Mr. W. Lee Lewis, Assistant Instructor in Chemistry, of Northwestern University, on "Some Features of Swimming Pool Control," before the American Medical Association.

I am appending a bibliography to this paper which will be available on publication. Also a copy of daily record blank of the New Trier Pool as filled out.

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Some features of swimming pool control

W. Lee Lewis, Ass't Prof. of Chemistry, Northwestern Univ.

SOME PROBLEMS AND POSSIBILITIES OF PHYSICAL TRAINING IN HIGH SCHOOLS**EQUIPPED WITH GYMNASIUMS**

Rose M. Gyles, J. Sterling Morton Township High School

In contemplating the title of the subject given to us for consideration and discussion, it is quite natural that the thought of the problems should leap to the mind first rather than the thought of the possibilities of accomplishing the ends desired. Problems are the ever recurring trials of our working hours. They are the enemies who are constantly coming "over the top" and who have to be grappled with and conquered, one by one. Problems are always with us and their conquest gives us greater strength for renewed efforts. But possibilities are the dear dreams of easier hours. They are the visitors with which we may solace ourselves after the strenuous day, when we relax sufficiently to take a thoughtful comprehensive view of our efforts and of our ideals. However insistent in their demands for adjustment the problems may be, is it not fortunate that we can never quite lose sight of the ideals, the hope of attaining to some thing which lies just beyond reach? I am sure that the problems are much the same for all of us everywhere. Is it too much to hope that in keeping possibilities in mind, we may unite in reaching for that which seems to be always just a little beyond our attainment, or that, together, we may "hitch our wagons to a star?"

Let us take for granted without discussion that the fundamental object of physical training in high schools is to develop the health and vitality, the strength and endurance of the pupil. We hope to fit him adequately mentally, morally, physically, for the struggle for success in his life's undertakings. We hope to help him to become a useful citizen and one who can make himself a valuable member of any community. What does the high school equipped with a gymnasium offer as a help to the attainment of this possibility? What advantage does the gymnasium give over and above the advantages and opportunities that can be given to the pupil without it?

The gymnasium offers always available space, materials for work, and supervision, which looked at from the pupil's point of view may be taken as a place for joyous freedom, bodily development, and guidance. Here is space in which, even in stormy weather, he may leap and run with joy, getting rid of surplus animal spirits and laying up stores of useful energy. Here is material and wise direction for giving to him an opportunity to exercise his muscles, to learn to control his body, to cultivate his memory, to acquire the power of endurance, to develop his capacity for pure enjoyment, to stimulate his imagination, to develop a sense of social co-operation, and to foster the spirits of unselfishness, courage, loyalty, and honor. Through hygienic exercise his large muscles develop in size and strength, and heart, lungs, circulation, and digestion are improved. Through educative gymnastics, the nerves and memory are trained and he acquires the power of co-ordination and control. Through folk dancing and group games, the spirit of social co-operation is developed. Through rhythm work and aesthetic dancing, his sense of pleasure and his imagination are stimulated. Through apparatus and field work, personal endeavor is encouraged, the spirit of competition is aroused, and he gets training in powers of speed, strength, endurance, selfreliance, and good judgment. Through team practice and games, he developed self control, the spirit of unselfish co-operation, of loyal-

ty, and of honor. His entire training in the gymnasium should give him a love for physical activity, a knowledge of its hygienic value, and a desire for clean sport, assets which he can carry with him through life, and which should help him to be a wise parent and a good citizen.

The first problem to claim attention is, how much of the school time is needed to give the pupil this comprehensive, this "all round" training. There are schools that offer as little as one period a week; more schools give two; some give three; some four; most of them allow extra time for athletics or team practice and games after school hours. With the possibility of accomplishing so much toward the ideal in training the young citizen, does less time than five regular periods a week for each student, with after school hours for athletics and team work besides, seem adequate? Should not our endeavor be to relate the work of the physical training department, so closely to the aims, ideals, and functions of the school, that principal and school board may come to a realization of its fundamental value and arrange to give it a place on the regular program? And following the recognition of physical training as an integral part of the school program, should it not be made compulsory during all of the four years? In many schools physical training is compulsory during the first, or during the first and second years only. After the first years it may be offered as an optional study. Optional work is usually practice for team games and few pupils go into regular classes. What a wonderful opportunity for really carrying out some effective work in the gymnasium is lost after those first years! The first two years make a good beginning in physical education, which if carried out through third and fourth years, could at least approximate our ideals of what should be accomplished in the high school. The fact that only sixty per cent of the men drafted for military service have been found physically efficient is rather a serious reflection on physical training as practiced in America. The fact, too, of the speedy and wonderful physical development of our boys, as a result of the military training in the camp, is also rather a serious reflection on physical training as practiced in our schools.

The high school equipped with one gymnasium offers the problem that doubtless is the cause of the limited time given to physical training on the school program. With a large attendance it is difficult to apportion the space and time so as to give each pupil his daily period of work.

One gymnasium must serve for both boys and girls. With ten periods a day it is plain to be seen that only ten classes can be cared for daily. It is obvious that in larger high schools two gymnasiums are needed. The ideal condition is the equipment of two gymnasiums, one for boys and one for girls, a swimming pool, and an athletic field. Several of the high schools in and near Chicago are already so fortunately equipped. With a good teaching force in the physical training department, it is possible to keep gymnasiums, pool, and, in fine weather, even the field, in use during all the hours of the day. That every high school may be so equipped in a not too distant future is a possibility that we may hope to see realized.

The problem of the man teacher for girls is happily no longer a problem in Chicago and in most of the larger County high schools near Chicago. During Mrs. Young's administration, women teachers were put into physical training departments of the city high schools. At least one of the County high school principals, more than fifty years before, had seen and caused his Board to see the importance of placing the adolescent girl under the care of the woman instructor. During the years of this critical change in the life of the girl, it is most imperative that she be placed under the supervision of a woman, who is wise enough to understand the dangers of the unrestricted use of heavy apparatus and athletic work at that time. Few men teachers realize that the enthusiasm and eager desire of the girl to perform "stunts" on apparatus should be wisely restrained. While on this subject it might be well to suggest also, that the boy of fourteen and fifteen years, when undersized and undeveloped from evident lack of proper foods and care, should not be allowed work on heavy apparatus, but should be given

the "setting up" drills, games in and out of doors, and light apparatus work, until a normal increase in size and strength shows that he can safely exercise on horse and bars.

Upon minor problems, such as the necessity for a special suit for the gymnasium, supervision of the proper clothing, time allowed for changing clothes, grading of pupils, credits allowed, cuts, excuses, absences, it is not necessary to dwell, excepting to say that it is important to insist upon the advantages of proper clothing for physical exercise, and so to educate or train our boys and girls in the knowledge of its necessity that there is no question in their minds as to its use. Pupils can be so trained that the girls may go to classes and all about the buildings in their gym. suits without self consciousness and without notice and comment by the boys. The older girls set the example to the new ones. When the newcomers realize that getting ready for the gymnasium early and not having to change clothes at the end of the period means fifteen precious minutes of play in the gymnasium, they soon become converts to the convenience and comfort of the suit. When mothers realize that the wearing of middie and bloomers all day means saving of other clothes and less expense in keeping up to fashion, they, too, may become ardent converts to the use of the gym. suits.

The schools whose boards do not allow them a regular medical examiner meet with a problem that offers serious difficulties to the physical training department. In such case, the heart and lung examination for the gymnasium is made by the family doctor or any doctor of the neighborhood. It is through this loophole that the lazy slacker makes his escape. By family influence, by the payment of a fee or by reason of some doctor's desire to stand in with a family for the sake of practice, the slacker obtains his excuse and gets himself exempted from the very work that he needs most of all. No director of physical training sees with equanimity those manifestly in need of physical development passing from his control. The school medical examiner, paid by the board, solves this problem, for he examines on an entirely neutral and scientific basis and makes his exemptions only for cause.

The physical examination of the pupil made by the director may meet with opposition on the part of the parent, who does not understand the reason for it. A careful statement of the value that the knowledge of the condition and development of the individual body gives to the teacher as a working basis for the benefit of the pupil usually overcomes the opposition. The period of the physical examination also gives an excellent opportunity to stimulate or awaken the interest of the subject in his own physical condition. It gives to the examiner, too, an opportunity, not only to get data for records of strength and development, but to get a practical knowledge of the pupil and his home surroundings. The parents can be made to co-operate with the teacher through the interest of the pupil in himself, and thus the relation between the school and the home can be established.

In districts inhabited by the foreign born, one problem may come up, which will not be found in communities of more advanced and less recent Americans, namely, the desire of the foreigner to make his child a wage earner as soon as possible, in order to increase the family income. After the first year at high school, during which year the pupil is limited in his hours at the typewriter, any time given to physical training is considered time wasted. In fact, any time given to studies that do not seem directly to prepare the child for his business course is considered time sacrificed. The hour taken from physical training is, of course, spent in nervous effort at the typewriter. When one considers that the child comes from a home in which he is considered as a wage earning asset at sixteen years, it is obvious that his physical development has been retarded by poor food and unhygienic conditions. Even with the physical inheritance given him by his strong peasant forbears, the lack of the usual out of door and country occupations, and a childhood spent in the city environment have left their marks upon him. Such a child needs the regular exercise and hygienic instruction of the gymnasium, and the happy effort and recreation of the play-

ground. Offices are full of pale young boys and girls who have been set to work as stenographers as soon as they were able to hold any position at all and whose earning capacity rarely exceeds eight or ten dollars a week. The "commercially greedy" parent is not slow to avail himself of his legal right to forbid his child a study he objects to.

We find another problem in the mother whose circumstances are more prosperous and whose only ambition for her daughter is society and a good marriage. She thinks physical training is too strenuous for her child. The daughter, herself, already too much relaxed by coddling and unwise inactivity, finds exercise a bore and, naturally, easily tired out, goes home complaining. Very likely, late social hours and frequent dancing parties have already sapped her vitality. The mother avails herself of her right to have the daughter excused from exercise just at a time when the girl has a much needed opportunity to store up strength and energy for a happy, healthful life.

How can we set about to overcome these difficulties and attain to the ideal of a thorough course in physical training for every child who is physiologically able to take it? Is it sufficient to have space and materials for work in gymnasiums, pools, and athletic fields? Is it sufficient to have good teachers who work hard spending themselves without stint in time and energy for the benefit of their pupils? Must we not create, in school and community, a greater demand for physical training, a greater love for it, and a better knowledge of its value, so that every one will appreciate the opportunity given to him and take advantage of it? Can we not accomplish by propaganda that which is not accomplished by hard work only, on the part of teachers? That quiet way of saying a few words, almost casually, while conducting a class; that well thought out little lecture, given while the class is resting; the lectures on hygiene; the advice given during the physical examination period; the written tests on physical training given three times a semester; even the physical training subject spelling lesson given monthly offer excellent occasions for propaganda. The quiet repetition of the objects of physical training and the good results obtained from taking the course; and the constant insistence on the relation of the care of the body, clothing, food, sleep, exercise to physical well being make a lasting impression upon the young mind. The child imparts his ideas to his family and to his playmates and associates. In time, the community may begin to think as you wish it to think, that physical training to be effective must be taken advantage of daily; that it should be compulsory in all schools and especially during the four years at high school; that gymnasiums and swimming pools are as necessary as school books in the pupil's curriculum; that the kind of development the child gets in the gymnasium is the best "all round" development; and that he can make use of every thing he acquires there after he leaves school.

Among the possibilities is one of making training in the gymnasium so effective that the pupil's standing in other studies may be improved. His powers of attention, concentration, and memory may be so developed that he can not fail to use them in his studies. If class standing shows gain as a result of physical training, it should not be difficult to awaken the interest in the co-operation of the other members of the faculty with the physical training department. A periodic examination of cards of class standing and conferences held with faculty members about pupils might be effective in making the relation of functions of other departments to the physical training department closer.

Then there is the possibility that an arrangement or classification of pupils into physiologically similar groups might be made, so that exercise might be fitted to the needs of each special group. At present groups are only so arranged for corrective work while the students are grouped on the basis of years of attendance. A more scientific study of kinds of exercises, on or with apparatus will doubtless be perfected so that the amount of strength, speed, coordination, and endurance needed will be ascertained and

tabulated. It will then be possible to fit the exercises more particularly to the physiological needs of the individual, greatly to his benefit.

The present trend of interest and effort is toward a correlation of the school with the social and civic needs of the community. The gymnasium should be an important factor in such correlation, since it provides space and opportunity for social and recreative activities. The gymnasium should be used after school hours by children who have no play grounds and no facilities for any kind of physical training in the elementary schools. It should be used in the evening by the boys and girls who work during the day. There is the possibility of making physical training so attractive by variety of exercise during the high school years, that love of it makes boys and girls return to evening classes for years after leaving school. The gymnasium should also be used by the older people. Successful classes for mothers in physical training are not at all unusual. Why not successful classes for fathers? One is never too old for exercise and many an elderly person can be kept younger and more agile by regular gymnastics. Why should not the high school gymnasium give the same opportunities to people that are offered by well advertised private "physical culture" representatives at a high price?

The gymnasium should be used more freely as a social centre of the community. Our schools are open evenings to the public for all kinds of technical and industrial training. Why not for social training? The young need it. It would be very well indeed for youth if fathers and mothers took more interest in supervising that training and left less of it to casual chance. It is never difficult to get the community to come to lectures, concerts, exhibits held in the high school. The physical training exhibitions given by the pupils draw immense crowds. Why not the possibility of going a little farther and drawing the community thither to make its own entertainment, in exercise that offers a change and therefore a relaxation from the work of the day, and in play that will give to all a spirit of youth and a sense of social co-operation? Through the gymnasium then, physical training of the high school will correlate not only with the aims, ideals, and functions of the school, but, let us hope, with the best aims, ideals, and functions of the community.

PHYSICAL SCIENCE SECTION

The meeting of the Physical Science Section was called to order by the Chairman, T. M. Barger of Normal.

A nominating committee was appointed to nominate two members of the program committee, one for three years to succeed T. M. Barger, whose time had expired, and one for two years to succeed J. A. Smith of Urbana, who is a member of the National Army. T. M. Barger of Normal was elected for three years to succeed himself, and J. B. Wallace of Gilman was elected for two years. B. S. Hopkins of Urbana was designated as Chairman for the following year and T. M. Barger as Secretary.

The report of the Committee on Correlation of Science Work, signed by J. L. Pricer, Chairman, was read, and in accordance with the recommendation of this report it was decided to hold a joint session with the other science sections on Friday afternoon of the 1918 Conference. F. D. Barber, Normal, and A. W. Marker, Decatur, were selected to serve on a joint committee to consider the prob-

lem of securing greater uniformity in the organization of science work in the High Schools of the state.

The following program was presented:

Morning.

- "A Project Study in Mechanics"—J. J. Miner, Gifford.
- "A Project Study in Heat"—A. W. Marker, Decatur.
- "A Project Study in Light"—F. D. Barber, Normal.
- "Preliminary Report on the Standardization of the Physics Unit"—
L. W. Williams, Champaign.
- "What the Physical Sciences can Contribute to the Civic and Social
Welfare of Our Country"—T. M. Barger, Normal.

Afternoon.

- "The Present Opportunity in Chemistry"—Roger Adams, Urbana.
- "Unification of the High School Courses in Physics and Chemistry"—
(a) "The Need of Unification"—B. S. Hopkins, Urbana.
(b) "How Far should Unification be Applied?"—F. D. Towne-
ley, Decatur.
(c) "How may Unification be Obtained?"—S. E. Boomer, Car-
bondale.
(d) "How may the High School Manual be Made More Use-
ful?"—George Mounce, LaSalle.

Each paper was discussed as it was presented.

In the morning there was an attendance of about 60 and in the afternoon about 100.

B. S. HOPKINS,
Secretary.

A PROJECT STUDY IN MECHANICS

John J. Miner, Gifford

The Physics texts such as is used in the average High School of today are in most cases revised editions. Yes many are 1917 copyrights. I am pleased to note that these revised editions contain applications sufficiently to give the student a burning desire to become an investigator of present day appliances of mechanics such as are on every hand. Just the other day in the study of the simple machines I asked the class to name a machine in which all of the simple machines were applied. The first response came from a boy—"The Automobile"—next from a girl—"The Aeroplane"—and still another—"The British Tank". Any one of these present day complex machines would serve as a project from which one might well study the applications and advantages of the lever, the wheel and axle, the pulley, the inclined plane, the wedge and the screw.

It occurred to me that a somewhat extended study at this point would prove valuable, so we decided to spend a week confining ourselves closely to the subject matter with every possible application available. Our boys came from the farm, the shop and garage, and from many vocations which fur-

ished them an abundance of applications of the simple machines. They never failed to have a good supply of common-every-day illustrations of the subject matter which served to supplement the illustrations of the text. The girls furnished many applications such as are found about the home and the store.

The subject of our Laboratory Exercise was termed "The Six Simple Machines." The purpose was:

- (a) To become familiar with the machines and their application.
- (b) To compare the work done with the assistance of the simple machine with the work done without it.
- (c) To determine the advantage gained by man in the use of the machine.

A modern equipped laboratory furnished us with all necessary apparatus, though toy-like in its nature, it gave reasonably accurate results. Many machines were constructed by the class (as in the case of the inclined plane and the pulley) by bringing into the laboratory actual machines from the lumberyard and hardware store.

A somewhat elaborate study was first made of the *lever* as a machine. Each member contributing 10 uses of it in practical life together with its advantage. Out of this elaborate data, a classification of levers of the first, second and third class, was made on the board. The class members then selected five levers of each class, making in all, fifteen examples. In this way every member of the class became well acquainted with the application of the lever. The work as expressed in the equation $E. D. : : R. D.$ was found to be true, providing no allowance be made for friction. A careful study of this revealed the "efficiency of the machine," which depends upon the construction of the fulcrum and the trueness of the lever arms, etc.— $eED=RD$, $e(10 \times 30) = (10 \times 27)$ $300e=270$, $e=.90$ (very good machine). The mechanical advantage of the lever was carefully ascertained by above quoted law. In words "The mechanical advantage of the lever equals the inverse ratio of its arms," as one member puts it. A 250 pound man placing his weight on the longer arm of a lever whose arms were 1 ft. and 10 feet, could raise a 2500 pound rock from the ground and with more advantage he could raise it out of the ground. A second student related his father's experience in using a 24 foot I beam (such as is used in bridge construction) with a leverage whose ratio was 23 to 1 in pulling out of the ground an old well casing which extended over 100 feet beneath the surface. He further said that fully 1000 pounds was placed on the long arm as weight. The resistance of this pull, if friction be ignored, was found to be about 23,000 pounds or 11 tons. This same student offered several other illustrations of the lever as applied on farm machinery. In some cases he pointed out the lever as used to change the direction of force, (such as in the use of the pump handle), while in other cases used to gain speed at the expense of force, (example of which is the fly swat) i. e. For any increase in force through the mechanical advantage there is a corresponding decrease in speed and for any increase in speed there is a corresponding decrease in force. This reveals again that there can be no gain in the work done through the use of a machine. At this point all acquired a clear conception of Force.

Other applications of the lever such as in the case of the tin snips were contributed. The boys who drove automobiles seemed to have an inexhaustible supply of lever uses.

The next day the class entered upon the study of the pulley in a similar method. After this, on following days, the inclined plane, the wheel and axle, the wedge and the screw were taken up with equally as much interest aroused as in the case of the levers.

Previous to each days work I hectographed questions bearing on the subject matter in hand such as these on the lever:

1. Draw a figure of a lever of the first class in which the momentum of the power and the momentum of the weight shall be 80 pounds.

2. Which class of lever is represented by a pair of scissors, a wheelbarrow, an oar in rowing a boat, the jaw in eating, the fork in pitching hay?
3. A ladder lies upon the ground with its foot against the house. Show by a figure how it changes from one class of lever to another when a man takes it by the top and raises it slowly to a vertical position by lifting successively on rungs nearer and nearer the foot.
4. Locate the position of the power, fulcrum and resistance in a nutcracker, auto pliers, a loaded pitch fork.
5. Why does moving the fulcrum nearer a stone to be raised make it easier to raise the stone with a crowbar?
6. In what class of levers is the weight of the lever a help? In what class a hindrance?

These questions may appear to be too difficult for High School pupils but it is not the case if the class is really interested in the work such as classes should be.

The problems such as were given in our text book needed no supplement.

As a general conclusion following all six simple machines, I collected from various texts the following questions and required each pupil to write out full statements as answers accompanied by illustrations and proofs to be recorded in connection with the exercise.

1. Is a perpetual motion machine possible? Why?
 2. What is friction? What are some of the means of reducing it?
What effect upon the efficiency of a machine does it have to reduce its friction?
 3. State the general laws of machines.
 4. Name three machines in which the mechanical advantage is one of speed. Which is greater in each case, power used or the resistance overcome?
 5. Do circus men in loading their heavy wagons upon flat cars, use the inclined plane to a very great advantage? Is the effort in such a case parallel to the plane on its base?
 6. In what way has the Ford the mechanical advantage over other cars in motor construction?
 7. If a farmer in stretching wire using a block and tackle set of pulleys exerts a pull of 200 pounds and pulls the wire to a tension of 1200 pounds, he really does as much work as 6 men could do. Is this a mechanical advantage in *force* or *speed*?
 8. A piece of iron weighing 30 pounds was pulled along a level oak plank and it required a pull of 186 pounds to move it at a uniform speed. What was the coefficient of friction? Use equation $F = \frac{W}{P}$
- Ans. 62.
9. A skater skates backward and by means of a spring scale pulls a companion also on skates. If the weight of the boy pulled is 144 lbs. and the scales read 16 lbs., what is the coefficient of friction? (II).
 10. From the above problems what seems to lessen friction?
 11. A motor whose efficiency is 90%, delivers 10 h. p. What must be its input?
 12. Is the efficiency of a modern sewing machine greater than the one used 20 years ago? Account for ease with which they run.
 13. Why does a gyroscope top continue to spin so long? What is its only friction besides the friction of the surrounding air?

(By the way, one member of the class at this point asked me how long the gyroscope top would spin, in a nearly perfect vacuum, well greased. This shows how problems arouse interest and uncover dormant ideas.)

PROJECT STUDY IN HEAT

*The Retention of Low Temperature in a Refrigerator and the Cooking Efficiency of Household Utensils**

(For Girls' Physics)

A. W. Marker, Decatur

I. In showing the idea of heat retention or different conditions for heat conductivity in the case of a wall of a refrigerator, the following method was used:

The experiment consisted of a comparison of different apparatus showing three conditions. The first was a paste-board box with a two gallon bucket set in at the top suspended by the rim. The inside space between the bucket and the box was carefully filled with sawdust. A paste-board lid, same material as the box, was carefully provided to cover the bucket. A second box was similarly contrived but without having the space inside filled with sawdust. In the laboratory these boxes were placed on a table with a third bucket of the same kind of material. This third bucket had no protection of any kind whatever save a paste-board lid of the same material as for the two buckets.

Then three pieces of ice of equal weight, one piece for each bucket, were carefully provided. Then the buckets were covered as stated above with the lids closely weighted down. Observations were carefully taken until the ice was melted.

The following results were observed: In the first case as discussed above the ice lasted about 33 hours, in the second 21 hours, and in case of the unprotected bucket, the ice lasted about 11 hours. Then the class with the instructor examined carefully two samples of refrigerator walls procured from retail dealers of the city.

A discussion followed with considerable thought-provoking. Some of the following questions were asked in class work: Why should the boxes be air tight? Do you think that each bucket has an equal chance in its condition to test that condition in which it is? Why does the ice in the third bucket melt so quickly?

II. In this part an attempt was made to show the effect of heat for cooking a substance placed under three standard conditions.

An aluminium cup, a tin cup, and a granite cup, all three of the same size and approximately of the same shape, were obtained. These vessels were fixed on supports in such a manner that each was submerged about a half inch in water contained in a shallow pan. The shallow pan was placed on asbestos over a gas burner. A fourth support was provided to hold a thermometer with its bulb in the water at the center of the shallow pan.

In each vessel was the same amount of lard. They were then adjusted as stated above. Heat was applied, while stirring the water, the thermometer as well as the melting lard was observed. The results of the observation were, that in every trial the lard began to melt first in the aluminium vessel, next in the tin vessel, and last in case of the granite vessel. Then while the water was cooling further observations were made. This resulted in a solidification first in the granite vessel, then in the tin and last in the aluminium vessel.

Considerable discussion of about 30 minutes followed touching the results in every respect. Leakage of heat as well as the efficiency of the three

*This experiment has been performed and tested by me a number of times. The report is a result but I am hoping to improve it with the aim to make it a permanent experiment for girls.

vessels was discussed. The following are a few of the questions discussed in the class: Why are the three vessels placed in the same water? Why are they submerged to the same depth? Could this experiment be performed by placing each of the vessels over separate flames? How is the heat applied in every-day life? Does the housewife cook her material in the standard conditions? Has this experiment any economic value?

A PRELIMINARY REPORT ON THE STANDARDIZATION OF THE UNIT IN

HIGH SCHOOL PHYSICS

Lewis W. Williams, University

An accurate knowledge of existing conditions in any field, is a necessary basis for improving those conditions. There is also needed an appreciation of the trend of things, given in part by the interpretation of the existing conditions and in part by the prophetic eye of the student. This preliminary report summarizes the results of an attempt to fulfill the first requirement. It is to be hoped that the Section will react to the report at its close, in such a manner as to determine some definite things relative to the second need.

Three sources of information have been used in this study—a questionnaire to North Central Association High Schools; a study of high school texts in physics; and a study of semester examination questions in physics. One hundred fifteen answers to the questionnaire were studied. These came from schools scattered quite uniformly over the states comprising the North Central Association. Ten or 12 high school texts were studied and compared but this report deals with 6 only—those most frequently used, as determined by the questionnaire.

The questionnaire shows: (a) High School Physics is a fourth year subject, not a third; opinion also seems to favor this. (b) Recitation time per week varies widely—from 80 minutes to 250 minutes—modal is three recitations of 40 minutes or three of 45 minutes. (c) Laboratory time per week also varies widely from 45 minutes to 360 minutes—modal is two of 80 minutes or three of 90 minutes. (d) Total time per week varies from 160 to 500 minutes; modal 280 minutes (three recitations of 40 minutes and 2 laboratories of 80 minutes) or 315 minutes (three recitations of 45 minutes and two laboratories of 90 minutes). (e) Slightly more than one-half the schools have "observation" or "field trips" for the class in physics. (f) Three aims were given in the questionnaire and teachers were asked to check those they approved. 1st. To present a comprehensive and unified organization of the subject; 90 subscribed to this aim. 2nd. To develop the particular quality of intellectual training which this subject makes possible; 101 subscribed to this aim. 3rd. To relate the subject to problems of environment, such as those of agriculture, domestic science, industry, etc. Ninety-six subscribed to this aim. Twenty-three different suggestions were received in answer to the question—What is the particular quality of intellectual training which this subject makes possible? For example, observation was given 22 times; accuracy, 23; reasoning, 31; practical application of mathematics, 9; suspended judgments, 11; impersonal conclusions, 14; acquaintance with environment, 11; and scientific investigation, 23. In answer to the suggestion, state other aims, 14 different replies were received. Mental discipline was named 11 times; accuracy, 11; meet a problem and solve it, 9; prepare for college, 5.

Under organization of the course, some interesting results were found. Forty-four schools reported using the Millikan and Gale text; 23, Carhart and Chute; 22, Black and Davis; others were scattered, Hoadley, Mann and Twiss, Gorton, and Reed and Henderson being most prominent. About 19 different laboratory manuals were used; some reported none; some,

several; some, own worked out from several manuals. Sixty-three answered that they did not follow a syllabus and 24 did not answer, thus implying they do not. A request for important deviations from text or syllabus showed few such changes and then only in a few schools. Most of these replies were in regard to variations in the order of treatment, or were modifications for local convenience. Hence, it seems that the organization and content of the course are decided in most schools by the text used. There is a great variety of practice in regard to the place of practical illustrations—whether they precede, accompany or follow development of principles involved? Forty-nine use any of the three plans, depending upon circumstances; 32 have illustrations accompany; 13, precede; 11, follow. Reasons given for methods followed were: to promote interest, clearness, apperception; most logical. Most of these reasons were given to justify each of the three plans. About one-half of the teachers responded to the last point in the questionnaire, "State other distinctive features of your course." Here are some mentioned: Supervised study; one period per week for discussion of laboratory notes; industrial survey of community; segregated classes for boys and girls; wireless club; camera club; 3rd semester of practical work in electricity; discussions of physical science questions before the whole school, by pupils.

Since, according to the questionnaire, the organization and content of the course seem to be determined in most schools by the textbook used, the next logical step appeared to be a careful study of the texts most generally used. The six reported upon here were used in 104 of the 115 schools studied; 3 of them in 89 schools. Twenty-two topics were chosen and the texts were studied to ascertain some idea of the relative prominence given to these topics. The figures indicate percent:

TABLE

	Mann & Twiss	Reed & Henderson	Gorton	Carhart & Chute	Black & Davis	Millikan & Gale
Molecular Physics	6½	8	3	5½	5	9½
Hydrostatics	5	5	6	5	6	4½
Pneumatics	2½	5	6	5½	5	5½
Force and Motion	7	9	12	8½	9	5
Gravity	4	2	1½	1½	1½	1
Work and Energy	11	2½	4	3	5	4
Machines	5	3	3½	3	5	3
Heat (General)	5½	7½	5½	5½	7½	6
Calorimetry	1	1	1	1	1	½
Heat and Work	7	1½	2½	2	4	5
Change of State	1	3	3	2	3½	2½
Magnetism	1	3	3	3	2	2½
Static Electricity	3½	4½	5	5	3	5
Current Electricity	8½	14	13	13	13	10½
Electro-Magnetic Induction	8½	7	9	9	13	11½
Sound (General)	3	5	3½	3½	2½	2½
Waves and Wave Motion	1½	2	1	1	1	1½
Music and Musical Instrument	3½	3½	6	6	3	5
Light (General)	9½	8	8	8	7½	8
Lenses	3	2	2½	2½	1½	1½
Mirrors	2	2½	2½	2½	2	1½
Optical Instruments	4½	2	1½	1½	2½	2½

The Mann and Twiss text shows more variation than any other one. For example, it gives about one-half as much attention to pneumatic as the others; fully twice as much to gravity; from two to three times as much to work and energy; scarcely half as much to magnetism; and about twice as much to optical instruments. However, this text was used in but 5 of the 115 schools. The Millikan and Gale, Black and Davis and Carhart and Chute texts compare quite favorably, a few exceptional topics being molecular physics where Millikan and Gale give about twice as much emphasis; force and motion where they give about one-half as much; machines, where Black and Davis give about twice as much; static electricity, where they give about one-half as much; electro-magnetic induction, where Carhart and Chute give about two-thirds as much; mirrors, where they give about twice as much; and heat and work, where they give about one-half as much as the other two. Too much dependence must not be placed upon this basis of comparison because, without doubt, correlation and treatment differ considerably. However, it seems safe to say, in speaking of the three texts, that the variations occur in the more important topics. In any case, then, the topic has received considerable emphasis.

Tests or examinations are so universally used in our high schools that they constitute a very important feature of our teaching, irrespective of the text used. Hence, it seemed advisable to get some data dealing with examination questions in physics. Accordingly, lists of questions were analyzed and questions classified as well as possible, under the following heads: Observation, rote memory, logical memory, concept, judgment, reasoning and speculative ability. (Permit me here to acknowledge my obligation to the late Dr. Johnston of the School of Education, not only for this scale but for helpful suggestions and the general plan of my work.) Briefly stated, observation as here used means ability to see and report things as they actually are; rote memory—skill in reproducing literally, forms of speech, definitions, sentences, paragraphs of texts, etc., without attention to the meaning; logical memory—ability to recall explicitly the consecutive steps of some former exposition of a topic or to give a clear, logical report of series of organizations of past impressions; concept—ability to grasp the significance of a situation, a principle, etc.; judgment—ability to make a reliable decision, demonstration of good common sense; reasoning—capacity for syllogistic thinking and expertness in noting *like-ness-difference* relations, cause and effect, etc.; speculative ability—ability to organize experiences to meet new situations. Questions were classified according to the type of ability they called forth. The data here given are for 14 lists and are typical of the study:

TABLE

	Total %															
Observa- tion -----	1	0	1½	0	½	1	0	0	1	2	½	1	½	½	9½	6½
Rote Mem- ory -----	1½	4	3	5½	3½	3½	2	2	3½	3½	4	3	4½	2	45½	31½
Logical																
Memory --	2	3	5½	2½	3	2½	2	1	2	3½	3½	2	3	3	38½	26½
Concept --	1	1	0	1	0	0	0	0	2	1½	1½	1	½	½	9½	6½
Judgment --	2	1½	0	0	0	0	1	0	0	0	0	0	1	0	5½	3.8
Reasoning --	2½	3½	3	3	4	3	1	1	1½	2	2½	3	2½	4	36½	25
Speculative																
Ability ---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total																
Questions	10	13	13	12	11	10	6	4	10	12	12	10	12	10	145	

From this study I have drawn the following general conclusions: Too much stress is placed on rote memory; too little, on concept, observation and judgment; reasoning seems to receive a fair amount of attention, in many cases unnaturally so, however; that is, by means of unnatural problems. The lists impressed me as being extremely academic, though undoubtedly the trend of modern physics is away from this. On the other hand, examination questions should conform quite largely to the type of teaching or they are unfair to the pupil. The query then arises, Is the examination or the type of teaching, or both together, responsible for the attitude toward high school physics today? Certain it is that physics—one of the most real and vital subjects in the high school curriculum—is too often regarded as a bugbear and something to be avoided, if possible. I believe that examinations, inherently weak at best, have contributed their full share toward bringing on this attitude, but, if examination questions conform to the type of teaching, the latter condition is the potent factor.

In the next place, what inferences may we draw from the study which will throw light on the problem of standardization? I believe we may say that the study, as a whole, shows we have standardization today. Texts are pretty uniform, much more so than I thought when I began the study, especially those generally used. Therefore the chances are that the organization and content of the courses are likewise quite uniform. Similarly, examination questions compare quite favorably. Time spent on physics may seem an exception but careful scrutiny shows better than a majority of schools (perhaps two-thirds) conform to one or the other of the two modal types. Aims back of the subject, if as a group of physics teachers we really have definite aims, are very uniform. If, then, standardization is what we want, do we not already have it? Yes, of a certain kind—almost entirely quantitative. I may be wrong but I feel that some of the criticism which is today directed against physics is due to this very fact—we have gone too far in this respect. Why, I do not presume to discuss here. That does not mean, however, that we are to give up the idea of standardization—rather does it mean that standardization must be of a different nature. I hardly know how to describe it but perhaps “quantitative” will come as close to it as anything.

In conclusion, I wish to offer a few suggestions in regard to such standardization. First, we must know and be students of child nature and the laws of learning. We must not kill but call into being, a love of Nature in all her manifestations. Subject matter must be organized for presentation, not in a cold, logical way, but psychologically, in a manner which makes it alive and full of interest. This means that we must follow where the pupil's interest in the topic leads rather than make the development conform to a set path. This requires real skill, lest much that is irrelevant come in. Charters says in this connection that the teacher, like a good general, must have a tentative plan of campaign but modify it to actual circumstances, always keeping in mind the real point which the lesson is to bring out.

Second, we must be sure that what we give will do what we desire it to do. This presupposes definite aims. What is needed then is the working out of a body of definite aims for physics. I submit this as a problem for the Section. Next, a scheme or plan, or perhaps several, is necessary for checking up subject matter and methods in the light of these aims. Too often we teach what has been taught or what we have taught over and over, feeling that it is worth while, when actual testing would show it does not do what we took for granted it would. Doubtless we could occasionally, at least, find something of much more relative value.

Lastly, we need some definite standards to check up the progress of our pupils in physics. Today, it is pretty definitely known how far advanced a pupil in fourth grade arithmetic should be; or a pupil in seventh

grade spelling. Ought we not just as definitely to know what progress our physics pupils are making? Or what ability they should have when they have finished mechanics, for example? I believe we ought. Just as standards have been worked out for the various subjects in the grades, I believe they can and will be worked out for high school subjects. These are outstanding needs as I see them,—big problems but solvable, if we as teachers attack them in the real spirit of service. I believe the solving of some problems of this nature, evolutionary though the process may prove to be, will help materially in placing physics where it rightfully belongs—at the front of high school subjects.

HOW THE TEACHING OF THE PHYSICAL SCIENCES IN OUR HIGH SCHOOLS CAN CONTRIBUTE MOST TO THE CIVIC AND SOCIAL WELFARE OF OUR COUNTRY

Thomas M. Barger, Normal

One of our well-known humorists recently remarked that it seemed to be impossible for anyone making a speech nowadays to get thru his introduction without solemnly stating, "Our country is at war." He went on to say that anyone with the intelligence to appreciate an address was already informed of this fact, and I know my audience today is an intelligent one. It matters little in what walk or station of life we are, each of us is affected by this condition of our country. It matters little how great or how humble we may be, each of us is helping or hindering the successful culmination of this crisis.

Those of us present are not fighting men or women, if we were we would not be here! But this does not mean that we are not doing, or cannot do, just as much for our country's welfare as tho we were at the front. In fact I often think that the work we do here at home may be of far greater importance than what we might accomplish in the battle line. Our soldiers and sailors, our surgeons and nurses are shedding their blood to make the world safe for democracy, but I firmly believe it is just as important to make democracy safe for the world. And it is in this endeavor that we should do our bit.

None but an intelligent democracy has been nor ever can be a successful one, and we teachers in the common schools of America have thrust upon us at the present time a responsibility which is tremendous in its importance and one which will not only try us to the utmost but one which we should assume with all the pride and the patriotism which a century and a half of democratic tradition should have instilled into us.

There have been many definitions of education. The one I like best is: The aim of education should be to equip the youth of today to live upon a higher plane of understanding and appreciation than that upon which their parents have lived. This seems to me all inclusive and sets before us a duty that is worthy of our best endeavor. Here is a problem that is tremendous in its importance under normal conditions, but in the present crisis its necessity is far more apparent.

I am sure we all hope this terrible war will end within the year, but there are some who predict that ten years will not witness its finish. In either case the United States is destined to play an important part in the resumption of peaceful intercourse among the nations of the world, and we should be able to do this intelligently. If the war continues for a number of years we shall witness the loss or maiming of the flower of our young men of today and the very children whom we now have in charge must step into positions of trust and responsibility upon leaving the common schools. We should do all we can to equip them to accept such posts. This preparation most certainly will tend toward the civic and social welfare of our country, and the problem for the educator is: How may this best be done? I wish to devote the remainder of my time to a discussion of how teachers of the Physical Sciences can do most to accomplish this end.

For the next few years at least a larger percentage than ever of our pupils, upon leaving us, will enter the commercial world without further study. It then becomes our duty to put forth greater effort than we have ever done in the past to prepare them to earn their livelihood. At the close of this war we shall enter upon an era of unprecedented commercial possibilities, and in just so far as our citizens are able to appreciate these possibilities and have fitted themselves to take advantage of them to this extent only shall we be able to hold our prestige among the nations of the earth. It is now possible for our common schools to be of great help in this movement, and from the nature of the subjects we teachers of the physical sciences can accomplish most if we will take advantage of our opportunity and attack the problem in a practical way.

I grow more firmly convinced each year that too many high school teachers have the college entrance requirements as the aim in their instruction. In this endeavor they overlook the more important duty of preparing the pupils for their future life activities other than entering college or the university. Too often they forget that the high school is the last place of preparatory training for the large majority of the young people of this country, and I am glad to have another opportunity to endeavor to bring this forcibly before you. If we would allow the inspiration of the present crisis to break us away from the old lines of academic instruction and induce us to put in their stead the teaching of our subjects in such a way that we would give the pupils something they want and can use in solving the problems which they are so soon to meet in the everyday experiences of their after life, our participation in this world war would not have been in vain.

If our teachers of physics would break away from the old method of requiring definitions and principles, of solving abstract problems which pertain to nothing practical, and would deal only in projects that touch intimately the lives their pupils are living and are going to live when they leave school, something which the pupils realize they shall be able to take home and use, these young people would go from us far better equipped to help their country in meeting the demands that are so soon to be thrust upon it. If our courses in physics would involve principles dealing with present-day problems of home and community life; if the work in mechanics were restricted to twentieth century machines; if the laws studied were developed in the light of their present-day applications; if the pieces of toy apparatus were discarded and commercial pieces used; if a considerable portion of many of the older texts was omitted and the time formerly devoted to these parts were used in solving community problems and in pointing out practical methods for local economic conservation, then indeed would our common school systems begin to accomplish the great work that was the substance of the dreams of their founders.

And our teachers of high school chemistry can vary their method of attack and the content of the subject matter taught so that their work will prove just as practical and as useful to the pupils as that of the physics classes. Most of the courses in high school chemistry as offered in our public schools today are simply tabloid freshman college courses and offer but little that will be of practical use to the majority of the pupils. The students leave such classes fit, perhaps, to enter college but in no wise are they better prepared to solve the practical problems of household economy or community welfare than are those who did not pursue such courses. I am convinced that high school chemistry is viewed by a majority of those who pursue it as a year of work in which rather interesting play periods in the laboratory alternate with the recitation periods in which

the memorizing of hard names, formulas, and laws, and the solving of uninteresting problems are required. I do not believe that such should be the aim of our high school courses in chemistry, nor that such courses will give the pupils the most for the time spent.

Why not put the needs of the majority of the young people taking such work above the college entrance requirements and vary the content of our courses so that only one-half or two-thirds of the year shall be devoted to the academic phases of the work and the rest of the time devoted to an introduction to the practical applications of chemistry which will help to equip the pupils to solve the problems they are so soon to meet? Such topics as cellulose and its more common compounds; starch; sugar and sugar refining; dyes and dyeing; petroleum and its derivatives; milk; food stuffs; food adulterations; candy, soft drinks, and their adulterations; tests for such adulterations; sewage disposal; and water supply will keep the pupils deeply interested and will aid greatly in fitting them to better appreciate the possibilities that will be open when our country begins once more to adjust itself to the resumption of peaceful commercial intercourse with all the nations of the earth.

In closing I would say that when our courses in the Physical Sciences in the high schools of this country are made such that they will do most to equip our young people to meet their after-life responsibilities, then will the teaching of these subjects contribute most to the civic and social welfare of our nation.

THE PRESENT OPPORTUNITY IN CHEMISTRY

Roger Adams, University

A few years ago the public in this country scarcely knew what chemistry or what a chemist was. When this war started, however, a change suddenly took place. The chemist is now one of the most significant individuals in the majority of manufacturing plants, as well as of the most vital importance to the war. In England at Oxford University the study of chemistry used to be known popularly as the "Study of the Stinks" but now this science at that same University is certainly being shown its due respect.

I believe that the present opportunity of the chemist may best be pointed out to you by reviewing briefly the chemical development made in this country by the American chemists since the summer of 1914. It is needless to mention what a monopoly Germany had on chemicals before the war started, a monopoly not only in organic chemicals but to a considerable extent in inorganic chemicals. As soon as the supply was cut off it was not a difficult matter for American manufacturers to increase the output of most of those substances which had already been manufactured and develop the processes for other inorganic chemicals of a similar nature, so that within a year most of the inorganic substances purchasable before the war could be procured in this country. It was more difficult, however, to fill the increased demand for sulphuric and nitric acids which were most urgently needed in enormous amounts for the manufacture of explosives. Few people realize the large quantities of sulphuric acid needed in a country like the United States; in fact it has often been said that the civilization of a nation can be told by its output of this acid. In spite of Germany's prestige in chemistry, it was not more than ten years ago that the Badische Aniline & Soda Fabrik paid a very large sum of money to American manufacturers to find out the best apparatus for the making of sulphuric acid. The large increase in the production of nitric acid involved more complications for the salt petre necessary had to be imported from Chili. Fortunately this importation could be increased in a comparatively short time until the output of nitric acid was large enough to supply the

demand. With the entrance of the United States into the war, the Government considered the problem of nitric acid much more seriously because it was necessary to rely entirely upon Chile for the raw materials needed for producing this acid. If Germany had not solved the problem of synthesizing nitric acid without the use of Chile salt peter she could not have continued the war for a year with the supply of materials that were on hand in that country in 1914. Last April a committee of prominent American chemists was appointed to investigate the situation in the United States and to make recommendations to Congress. These recommendations were passed and \$35,000,000 was appropriated for purchasing a reserve supply of sodium nitrate, while \$20,000,000 was set aside for the development of the general problems of fixation of nitrogen from the air. Of these fixation methods, there are three which have been used commercially in the European countries up to the present time: the arc process of combining directly nitrogen and oxygen to form the oxides of nitrogen; the cyanamide process consisting of a direct combination of calcium carbide and nitrogen to form calcium cyanamide; the Haber process, a direct combination of nitrogen and hydrogen in the presence of a catalyzer to form ammonia. By the first process, nitrates can be formed by absorbing the oxides of nitrogen in alkali. In the second, the calcium cyanamide is treated with steam to yield ammonia which can then be oxidized quantitatively to nitric acid in the presence of air and a catalytic agent. In the same way the ammonia obtained in the Haber process may be converted to nitric acid. The first method is practicable only where a large amount of water power is available, consequently the latter two are those now being used in Germany. The General Chemical Company of this country nearly five years ago foresaw the necessity of synthesizing nitric acid from the air and set their chemical experts to work on the problem. A process was developed which is now ready to be put into commercial operation, a process far superior to any that has been used in Germany or other countries. It consists in making ammonia then oxidizing it to the acid. Although similar to the Haber process in that ammonia is produced by the direct combination of nitrogen and hydrogen in the presence of a catalyzer, it has the distinct advantages of using much lower temperatures, obtaining double the yields and involving simpler mechanical apparatus. Of the \$20,000,000 appropriated, the committee recommended that \$3,500,000 be devoted to a plant to be erected in Sheffield, Alabama, capable of producing 60,000 pounds of ammonia per day by the General Chemical Company's process and of converting this ammonia to nitric acid. Much smaller sums were set aside for the further study of other methods, excluding the arc method which seemed impracticable at present. The most promising of these is that developed by Professor Bucher of Brown University during the last ten years, consisting of the reaction of sodium carbonate, coal and nitrogen in the presence of iron as a catalyzer to form sodium cyanide, which by boiling with caustic soda gives ammonia and sodium formate. The ammonia can then be oxidized to nitric acid. The prospects are bright, therefore, that within a year the United States will be independent of foreign lands for their nitric acid.

Of the other inorganic chemicals, the lack of potassium salts was most seriously felt. Formerly, these had been imported almost exclusively from the Stassfurt beds of Germany, so that to supply the needs of the United States it became necessary to seek other sources. The Kelp industry developed to an enormous extent especially along the California coast; the extraction of potassium from alunite and other potassium containing silicates met with more or less success; the extraction from beet sugar residues became a large business; the extraction from various natural brines and salts increased remarkably. Searles Lake in California alone is said to contain 10,000,000 tons of potassium salts, and the process of sepa-

ration from the other salts is already a practical proposition. Finally, many plants for the extraction of potassium from wood ashes have been started and in the Middle Western States, huge amounts of corn cobs are burned daily for the large percentage of potassium that the ashes contain. To show the marked increase in the potassium industry a few figures may be given. In 1915, the output of the various potassium compounds corresponded to a thousand tons of potassium oxide; in 1916 to 10,000 tons of potassium oxide, and the indications are that in 1917 the output will correspond to between 15,000 and 20,000 tons. About 40% has come from the natural salts and brines, 40% from kelp and 20% from the other sources mentioned above. Thus the potassium difficulty is being satisfactorily solved.

Although much smaller in volume, the lack of an organic chemical industry was much more keenly felt by the general public. When a man's new black overcoat or a lady's black spring hat turned green in the course of a few weeks, that particular person began to realize that something should be done in regard to the dye-stuff industry. In the same way, when thousands of persons could not purchase the medicinals they formerly used, these individuals began to feel that this country needed something more than a chain of drug stores. The organic chemicals may be divided into four groups, explosives, dyes, drugs and photographic developers, and fancy organic chemicals.

It is hardly necessary to mention the explosive industry. It was a strong one in this country before the war and a comparison of the exports in 1914 with those of 1917 will serve to make one understand how rapidly it has expanded. In 1914, \$6,000,000 worth were exported; in 1917, the figure will reach \$1,240,000,000.

As for the dyes, the seeming slowness in their manufacture during the first year of the war may be excused when it is realized that the most fundamental substances as well as the intermediate compounds had to be manufactured before the finished products could be made. Germany had such a complete monopoly in this line of chemicals that the commonest substances were not produced in this country. When it became necessary, however, to develop this industry, which consisted before the war of five American concerns of comparatively small size that did some manufacturing but were for the most part importers of foreign dye-stuffs, the manufacturers came to the front. At present, there are 150 firms producing either intermediate products or finished dyes and of these at least 15 are very large corporations. Already, about 80% of all the dye-stuffs which were imported before the war are now being manufactured in this country and it is probable that half of the remaining twenty per cent will be on the market within the next year. The final ten per cent are very complex in nature, difficult to prepare and needed only in small amounts. When it is brought to one's attention that for some of the common cotton dyes it requires more than twenty distinct processes in order to get the finished product, it is remarkable that the development has been as rapid as it has. It is true that high prices still persist, so that only the more expensive goods contain the better dyes but this is simply because the manufacturer has invested large amounts of money and as long as possible intends to make a big profit. Moreover, he prefers to work out at this time the preparation of new dye stuffs rather than spend his energy in developing to a greater extent the ones which he has already produced successfully in a commercial way. In 1913, \$350,000 worth of dyes were made in this country; in 1917, \$12,000,000 worth, and of this \$12,000,000 worth, a very appreciable proportion has been exported. Last July alone, \$500,000 worth were shipped abroad, chiefly to Argentine, Brazil, Japan, and British India.

Often one hears it asked why American manufacturers did not enter this field before the war. The reply has been that it was due to the fact that we did not have good chemists in this country. That is a great mistake.

The dye industry was not taken up for two reasons. First, no really large concern cared to go into this work and smaller concerns were unable to compete with the German industrial methods. One specific example may be cited. About six or eight years ago, a concern in the East built a \$200,000 plant for the production of aniline. At that time, it sold for 12c a pound and these particular manufacturers were able to produce it at 11c. Not long after their product was on the market, the imported material suddenly dropped to between 9c and 10c and upon investigation, it was shown that the German manufacturers were selling below cost. This was continued for nearly a year and a half until it was necessary for the American dealers to drop the business. About three months after that date, the price of the imported material rose to 13c a pound. The question as to why a larger manufacturer did not take up the work may be easily answered. Although the business was extremely important, it was not large enough to attract the American investor, because the labor and experimentation costs were great and the returns would have been comparatively small, particularly on account of the keen competition which was sure to come from Germany. The following illustration will serve to bring out this point. All of the various color industries in Germany together manufactured over twelve hundred products and controlled probably 80% of the world's markets. They paid in 1913 dividends to the amount of \$13,000,000. In the same year the Ford Motor Car Company which produced only one article earned four times the amount of all these German color industries together and paid at the same time three times the wages. Many more instances of this same kind might be given. The dye industry in this country is now here to stay however. Not long ago I was told by the head of a big factory that they were producing many of the chemicals which were needed in very large amounts at a cost of 30% to 40% below what these substances sold for before the war, in spite of the fact that their raw materials were much more expensive. With a reasonable protection by the United States government, the indications are that the American dye industry in the next decade will become second to none in the world.

The photographic developers have gradually been manufactured at the same time as the dye stuffs, so I will pass over this interesting group of substances and speak briefly of the drugs. Even before the summer of 1914 this country produced and exported large amounts of natural medicinals, substances extracted from plants, as quinine, strychnine, etc. But comparatively few synthetic drugs, those made up in the laboratory from simple organic substances, were produced in this country. At the present time, however, practically all the common ones are made and even exported in large quantities. The synthetic drug industry is a much newer one than the dye-stuff and many of the important drugs are still under the patent laws and these patents are held chiefly by alien enemies. Since some of these substances are of extreme importance, the Government, a short time ago, passed a bill which would allow a reliable American manufacturer to obtain a license from the Federal Trade Commission to produce these substances provided he pay into the United States Treasury 5% of the gross proceeds from his sales. This arrangement is to proceed until a year after the war is completed, six months from which time the patentee must sue the American dealer for his royalty. A court is then to decide whether the 5% is large enough or too large and the exact amount to be paid to the patentee will be settled. This bill, however, does not suit the American concerns and a number of the larger ones have been unwilling to take up the manufacture of these patented drugs under such conditions. They look at it in this way; that at the expiration of the year after the war is over, no absolute assurance of protection by the American Government is given. The bill states that subsequent protection will be left to the Federal Trade Commission when the time arrives and this is too uncertain to please the American pharmaceutical producers. Moreover, the American Government is willing to license more than one concern for the manufacture of these drugs and therefore there

will be competition not only at the present time but even keener competition with the German producers after the war. Although the bill has been passed for five or six weeks, comparatively few applications for licenses have been made and most of these have come from concerns controlled by German capital. A few American manufacturers will no doubt undertake the production of certain of these patented drugs for which the demand is extremely large and where the indications are that the necessary investments will be paid for and big profits made before the war is over. In this group may be mentioned especially salvarsan needed so extensively in the army and novocaine, a local anaesthetic of the greatest value. There were some hundred or more other drugs manufactured almost exclusively in Germany and sold in this country before the war which had only a very specific use and consequently for the most part only small sales. Many of these are still under the patent laws, the remainder are not, but it will be a long time before American concerns will undertake the synthesis of these substances. The demand is small, the manufacture difficult and in most cases nearly as good substitutes of much simpler nature are on the market. The drug industry in this country at present, although not as satisfactory as that of the dyes, is being rapidly developed and it will not be long before the United States will hold its own in this branch of chemistry.

The last class of organic substances are the fancy organic chemical reagents. These include not only the materials badly needed for scientific research but also those almost indispensable for analytical work, food testing, etc., as dimethyl glyoxime for the quantitative determination of nickel, cupferron for the separation of iron and copper, phenyl hydrazine for sugar separations and many others. Considerable quantities of these compounds were on hand in this country when the war broke out, held chiefly by university laboratories and distributing concerns. By careful conservation on the part of the universities and greatly advanced prices on the part of the distributing houses, a serious lack of these reagents was not felt until this last year. The manufacturers have not and will not at present attempt to produce these compounds on account of the comparatively small demand, on account of the skilled chemists that it needs for this work, and on account of the very small profits involved. The University of Illinois undertook the work of preparing many of these substances which were needed most. Since the first of June a number of graduate students have been employed in this laboratory and have made up to the present time over one hundred different compounds which had not been manufactured in this country before and which were badly needed by laboratories all over the country. In this work special attention has been paid to developing the processes from the laboratory scale of 25 or 50 grams to a scale of 1 or 2 pounds and thus it has been possible to give to the men a training not to be obtained in any other way in a university, a training of the kind most needed now in the chemical industry. At the same time, valuable service has been rendered to scientific, technical and government laboratories throughout the country. Moreover, the students have been paid enough so that their living expenses would be covered. Amounts of these reagents varying from a few grams of certain ones to nearly a hundred pounds of others have been made and sent away and the business already has amounted to between \$7000 and \$8000 which is large if it be considered that not a single piece of apparatus has been used which was not formerly at hand, and not a single man doing the work has had any training outside the University. At the present time the cooperation of other large universities is being sought so that more ground may be covered. It is hoped to form an organization for the manufacture of this class of substances which will continue not only until the war ends but until such a time as a large American manufacturer will undertake the work, not for profit but to help the United States become independent of foreign laboratories.

One other phase of chemistry should not be overlooked at the present time, the chemistry of gas warfare. This can hardly be called an industry

unless it is determined by the amount of money expended for its development. England is spending \$125,000 a day simply for its study and that sum does not include the cost of manufacture of the material actually used in the fighting. In February, 1915, the first attacks were made with chlorine and bromine. Four days after that attack, the English had provided 1,000,000 troops in France with protective masks. Since that time, the intensive study of poisonous gases and liquids and the protection therefrom has been the serious problem of the leading chemists in the various warring nations. Last spring 25% of all the shells fired on the Western front were liquid shells and that number is increasing continually. The use of gases has been given up to a considerable extent as they are too volatile and soon blow away. What is sought for now especially are liquids, boiling between 100° and 200°, tear-producing and poisonous. These will often remain on the ground for days and prevent the soldiers from remaining there except when wearing their masks. The first attack at Verdun was made with a new liquid which was not absorbed by French gas masks and it is reported that the original attack on the Italian front a few weeks ago was started with a liquid which had not hitherto been used. The extreme importance of this warfare can immediately be seen for if it were possible to obtain a poisonous liquid or gas not absorbed by the enemies' masks and which could be produced and used in large amounts, the chances of breaking through a line not supported by many reserves would be great. There are, at Washington, at the present time between two and three hundred chemists working continually on the development of different phases of this warfare, from the offensive side as well as the defensive side. An interesting point in connection with this work is the great secrecy needed since the secret service of the various nations is most active and effective. Not many months ago, it was reported that the Germans used a colorless, odorless liquid or gas which when breathed gradually poisoned the soldiers, caused blindness in the course of a few days and subsequent death. This report was true but before the material was used on the Western front, the English Secret Service had found out what it was, how much the Germans were capable of manufacturing, had obtained blue prints of the mechanical apparatus and these were in England long before an attack was made with it. This allowed time for developing sufficient protection for the men.

It can be seen, therefore, that the present opportunity in chemistry is great and the advancement already made shows that the American chemists are not behind those of other nations. The demand for men with a chemical training is enormous at the present time, not only for those who have had a training in research but also those with simply a Bachelor's Degree. One concern wrote to me just the other day, stating that they had sixteen positions to be filled and other similar instances are arising from time to time. I, personally, feel sure that the demand is not a temporary one but permanent, for the chemical industry in the United States is now on its feet. Whereas the salaries offered beginning chemists five years ago varied from \$50 to \$75 or \$80 a month for a man who had four years undergraduate training and \$75 to \$100 a month for men with considerable graduate training or even a Doctor's Degree, at the present time a concern would not consider offering less than \$1200 to \$1500 for a man who had a college training in a good university or less than \$1500 for a man with some graduate training, while to men with a Ph. D. the offers seldom fall below \$2000 and often are greater than that. This last June, one of our students who received his Doctor's Degree, a man who was not more than an average student, received a position at \$2300 and this fall was raised to \$2700, a salary which puts to shame the majority of the assistant professors' salaries in this and other universities.

It would be possible to consider almost indefinitely the various interesting phases of the chemical field but I shall simply mention that large numbers of chemists are also needed in the oil industry, for water and food testing, for the development of new and more efficient antiseptics and drugs,

for the study of new alloys for all kinds of engines, in fact for innumerable fields of the greatest importance.

Thus a few of the accomplishments of the American chemists and something of what they are attempting to accomplish have been put before you. A relatively large number of these have doubtless begun their chemistry in the High Schools and only when one is reminded of this is the importance of the work of the High School teacher realized. A student never loses his first impression of a subject and it is possible thus to make or break a man for any field in the first few months of training. The new student must have his interest in the subject aroused, he must be made to feel the importance of it and he must be able to see that chemistry is a connected field and not a mass of isolated facts. With the cooperation of the High School and University teachers and by taking the greatest pains to train carefully, correctly and interestingly the men who are now starting the subject of chemistry, I am sure the United States will soon be a leader of the world in all branches of this science as they are at present in so many other lines.

THE NEED OF UNIFICATION OF HIGH SCHOOL COURSES IN PHYSICS AND CHEMISTRY

B. S. Hopkins, University

In considering the need of unification of High School courses in the physical sciences I have taken the liberty of confining the discussion to chemistry, because I am not acquainted with the problem as it presents itself in physics. It is by no means certain that the statements made in the discussion of this subject from the standpoint of chemistry will apply with equal force to physics. But the group of students represented in the present study is sufficiently varied to justify in large measure the assumption that the conditions surrounding the teaching of chemistry are also to be found in connection with the other physical sciences.

Students in the University of Illinois who register for elementary chemistry are divided broadly into two classes: those who have had one year of chemistry in their preparatory schools and those who have never studied chemistry. The former are given the course known as Chemistry 1a irrespective of the curriculum which they are following in the University. We will confine our attention to the work in Chemistry 1a since it is obvious that this is the only university course which has any bearing at all upon High School chemistry.

During the present semester there are 515 students registered in Chemistry 1a, which is about 90 per cent of the registration in normal times. The present class represents a total of 112 preparatory schools, about 20 of which are outside the State of Illinois. The largest number of students from any one High School is 13, while each of 126 schools have sent us only a single student. The following table shows the distribution of students from High Schools of various sizes:

Total enrollment in High Schools	Number of students
Below 100 -----	30
100-200 -----	63
200-300 -----	66
300-400 -----	50
400-500 -----	48
500-750 -----	39
750-1000 -----	30
1000-1500 -----	43
1500-2000 -----	35
Above 2000 -----	33

A casual examination of these figures will show that Chemistry la affords an excellent opportunity for judging the efficiency of High School instruction in chemistry in this and adjacent states, so far as efficient teaching may be estimated from the progress of the students themselves. One is also impressed with the fact that a class made up of students of such a variety of experiences presents a pedagogical problem of no mean proportions. If these students are to be efficiently taught in college chemistry, it is essential that their previous training possess some degree of uniformity in order that they may meet upon a common ground or at least that they may be able to understand one another.

In order to secure some facts having a direct bearing upon the problem of unification a questionnaire was distributed among the students as nearly simultaneously as possible about six weeks after the beginning of the semester. The students were asked to give answers without bias and without taking time for reflection. In order that fear might not deter any from telling the plain truth the student was told neither to sign his own name nor to designate the school from which he came. The total number of reports received in this manner was 464, tho many of the questions were not answered upon all the blanks.

The High School training in sciences other than physics and chemistry is shown by the following tabulation:

	With laboratory	Without laboratory	Total
No. who studied Botany -----	176	15	191
No. who studied Zoology -----	137	9	146
No. who studied Physiology -----	79	81	160
No. who studied Physiography -----	90	91	181
No. who studied Geology -----	--	--	4
No. who studied General Science -----	--	--	9
			<hr/> 691

Data obtained in this manner is not to be trusted too implicitly, but this table indicates that a student in his High School course has on an average a credit of less than 1.5 courses in those subjects which are generally regarded as best suited for introduction to the scientific training and habits of study. If this statement represents the actual conditions which prevail in the High Schools it undoubtedly explains much of the difficulty encountered in the teaching of physics and chemistry. It is not a simple task to develop within the minds of young students a sound scientific sense nor is it easy for beginners to learn to think and reason scientifically. If these habits are formed in previous study of the sciences, the task of teaching physics and chemistry is greatly simplified and greater efficiency may be expected. Of these students all but 57 had studied physics in High School; 236 of the number studied physics before chemistry, 132 took chemistry first while 35 took the two subjects simultaneously. Of those who indicated the year in which chemistry was studied 259 took chemistry in the senior year, 172 in the junior year and 12 studied chemistry before reaching the junior year. While these figures indicate a gratifying tendency in most cases to keep physics and chemistry in the last two years of High School work, there is apparently no uniformity of prerequisites and the sequence of subjects shows considerable variation. These conditions cannot help but complicate the task of the teacher.

It is interesting to learn the student's impression of his own training in chemistry after six weeks of experience in the university course. Accordingly each individual was asked to state his own impression of his chemical work in the preparatory school. The results are shown below:

<i>Equipment</i>		<i>Training</i>	
Abundant -----	94	Excellent -----	79
Adequate -----	218	Good -----	184
Fair -----	126	Ordinary -----	165
Meagre -----	16	Poor -----	23
Very meagre -----	1	Very poor -----	5
	<hr/> 455		<hr/> 456

Not many of the students attribute their difficulties in college chemistry to the fact that their preliminary training is attempted with insufficient equipment. It is a fact which a company of chemistry teachers should regard seriously that the students seem to consider their instruction in chemistry as occupying a lower level than would be expected from the amount of equipment furnished. This is shown by the fact that fewer students put their training in the two upper groups, while a slightly larger number characterize their training as falling into one of the two lower groups. This fact calls in question the usual attempt on the part of the teacher to blame inadequate equipment for poor results. It is gratifying, however, to notice that in the opinion of the students the High School work in chemistry is generally well done since so few of them consider their training below the average.

There is perhaps no more forceful way to indicate the difference of preparation among the students than by their answers to the request to characterize Chemistry 1a after six weeks of work. The result is shown in the table:

A snap -----	4
Easy -----	22
Average -----	22
Difficult -----	171
Very difficult -----	41
	<hr/> 464

These opinions show most clearly our difficulty in teaching Chemistry 1a. While half of the students consider the course an average subject, a large part regard the subject as difficult or almost impossible. The number who are frank enough to admit that the course is easy or a snap is not considerable, but it must be remembered that it requires some courage to tell an instructor that his course is easy. The significant fact is that over two hundred students find Chemistry 1a difficult while a considerable number regard the same course as easy.

An expression of opinion in regard to the cause of difficulty brings out some facts which may be of interest to chemistry teachers. Of the students who indicated that they were encountering difficulties in college chemistry, 66 named the solution of problems as the chief trouble. If individual cases are examined it will be found that almost without exception the trouble arises from inadequate training in the common processes of arithmetic since few of the problems involve any more difficult operations than those of ratio and proportion. High School teachers are usually familiar with this deficiency, the responsibility for which must be placed upon the work in the grades.

Other difficulties mentioned are as follows: 44 indicate some trouble for which the High School is at fault; 39 find that the University is responsible in some way for their obstacles; 34 find the writing of equations as the chief difficulty, while 17 are having difficulty because they have been out of school for some time. Eight students are frank enough to admit that they are not applying themselves sufficiently.

From what has been said it would appear that the task of making Chemistry 1a suitable for all the students is impossible under the present conditions. What is easy for one student is too difficult for another and if the

University courses in chemistry are to be closely correlated with those in the High Schools either the latter must present some uniformity of training or some plan must be devised by which the former may be varied to suit the needs of the individual student. Some progress has been made in classifying the students in Chemistry 1a according to the thoroughness of their preparation, but complete success in this direction is scarcely to be hoped for. Some teachers of college chemistry have become so discouraged in attempting to teach classes representing such varying states of preparedness that they declare their preference for students without any knowledge of chemistry at all and accordingly advise High Schools to discontinue the subject. In view of the rapidly growing importance of chemistry and the general interest in the subject this step would scarcely seem wise since it would deprive those who do not attend college of all knowledge of the subject. A better way it seems to me is to adopt a plan by which the High Schools could give a more uniform course of study. Entire unification is neither necessary nor desirable, but an agreement upon the general features of the course can be made to strengthen our educational system and such unification would greatly relieve the burden which falls upon the college teacher and make more efficient teaching of chemistry possible.

HOW FAR SHOULD UNIFICATION BE APPLIED?

Fred D. Townsley

In order to arrive at the opinions of instructors of Physics in colleges, universities, and high schools, a questionnaire was sent to 115 professors and high school instructors of whom about 75 answered one or more of the eight questions in the list. Answers were received from Iowa to Maine and as far south as Louisville, Ky. Many of the most prominent physicists of the large universities replied at length.

1. *Of the "120 semester hours" in secondary school physics, how many should be standardized for all schools?*

Answers run from "none at all" to "entire course," colleges in general in favor of greatest uniformity, and large high schools in favor of the least. A curve would have its highest point at about 90 hours standardized. Freedom, elasticity, liberty and similar words occur frequently in the replies.

2. *What parts of the physics course might be determined by local needs?*

A preponderance of the replies state that the general principles of physics should be taught in all schools, and that the environment should wherever possible, furnish examples to make the teaching concrete. "All of it should be adapted to the needs of the particular class one is teaching"—Henry Crew. Only one, and that a college instructor, ventured the opinion that separate classes be formed for boys and girls.

3. *Do high school teachers attempt to teach too many topics?*

All but two high schools say yes, as do 60% of the college replies. A large number say too much "small stuff" is emphasized. One writer said that more time is needed for digestion; another, that colleges would like to see less subject matter better taught.

4. *Name topics in the teaching of which practically all the time is wasted.*

The following were listed: Absolute units (2); acceleration (3); alternating currents (3); battery theory; Boyle's law; Charles's law; cells other than gravity, dry, and storage (3); color theory; calorimetry; diffraction; Doppler's principle; dynamos and motors (2); electric bells; electric discharge thru gases; electrolytic action; falling bodies and gravitation (4); image formation (2); mirrors, convex and concave; law of magnetic poles; moment of inertia (3); physical basis of music; Newton's laws of motion—(this from a large high school); pendulums; polarized light (6); properties of matter the first week; photometry; radioactivity (2); resolution of forces; rotary motion; simple harmonic motion (4); spectra, spectroscopy and

Frannhofer lines (3); static electricity (3); tone analysis by manometric flame; wave motion (2); electric waves; wireless (2); X-rays.

There are thirty-six distinct topics that different instructors think are not worth the time consumed in their study. It is to be noted that there is no general agreement on a very few topics, but each one seems to have his own pet aversion.

Nine assert that no topics are out of order, if properly taught. One writer said time is wasted on "any topic up to which the student has not been led by steps which he is liable to follow."

5. *Name topics that are not sufficiently stressed.*

*Acceleration (3); acoustics; *alternating currents (4); *Boyle's law; *Charles's law; circuits, divided; coefficient of friction; current electricity (2); centrifugal force; exact definitions (5); electrical units; electrolysis; electricity—chemical effects; electrical measurements, practical; energy units; energy transformation; force; fundamental laws—common uses; gas engines; harmony of colors; heat distribution; *heat measurement (calorimetry); household applications; hydrometry; humidity in ventilation; hydrometer, (especially Baume); *image construction; illumination; kinetic theory (4); Joule's equivalent (2); levers; light; linear expansion; momentum; machinery; mass and weight; mechanics, simple principles (8); *Newton's laws (2); Ohm's law (3); properties of matter (2); physical formulae, power (2); power transmission (2); *spectra and colors; sound (2); speed (2); *simple harmonic motion (2); sound, the basis of music; team engines, modern; storage batteries; temperature and change of state; torque and moments; units (3); ventilation (2); velocity; wind power; *wave motion (3); why?; work and energy (4); weather phenomena.

In all, fifty-nine topics which are not sufficiently stressed according to the returns. Topics marked * occur in both lists 4 and 5.

It is also interesting to note that a large number of the topics last mentioned do not occur in many texts except the most recent ones. Many of these are practical applications of simple physical principles that are easily accessible to all.

One writer said "a student well informed upon acceleration, mass and weight, Newton's laws, speed and units has but little trouble with college physics.

6. *Name five specific things that the student should be able to do in mathematics when he enrolls in high school physics.*

There is almost a pathetic appeal for ability to add, subtract, multiply and divide—correctly, (15), handle the decimal points (8), handle easy fractions (11), solve a very simple linear equation (13), extract square root (10), proportion (10), solve a quadratic—simple quadratic (7), graph an equation (8), and solve triangles (20). Twenty-two other answers were given, each given by one or two.

If the solution of problems is the test of knowledge of physics, the great unanimity of the answers above indicate one source of waste. The student does not have at his command simple mathematical skill.

7. *List briefly some of the weaknesses of high school physics teaching, (a) in class work, (b) in laboratory work.*

Forty-three distinct criticisms that might be grouped under (1) lack of scholarship, (2) poor methods due to lack of professional training, (3) lack of knowledge of what a 17 year old student actually can do, and what is impossible for him to do, (4) shiftlessness, lack of enthusiasm, and laziness, (5) inability to adjust text, apparatus, environment and student, (6) no vision of the new physics.

Many of the teachers of the larger high schools—the men of most preparation and longest experience have come to the conclusion that too much is expected of students and that there is too little adaptation of the material to the student from the standpoint of interest and the student's capacity.

8. *List briefly some of the weaknesses of college teaching.*

The offerings here were very free—51 in all. They are in general of the

same type as those of No. 7, the general opinion being that the work is too difficult, too extensive, too mathematical, too theoretical, too dry. Methods of instruction are harshly criticized and in general a lack of standard for a first course in College Physics is felt. As most physics teachers have had some college training it was thought that this question might locate some of the reasons for some of the weaknesses in the teaching of beginning teachers especially.

After studying the answers to this questionnaire one is tempted to say that college teachers are far from united as to the product that they desire from the high school. In general they expect too much—too much in the way of initiative (that rare, elusive,—almost mythical thing), and too much in the way of ready usable physics information. The college instructor who dares to assume that a student who has had physics or chemistry in his college course is doomed to considerable annoyance and persecution at times. Such an instructor has never studied the "curve of forgetting" which drops to close parallelism with one of the axes rather sharply. Johns Hopkins prefers students who have not had any physics in high schools. They take nothing for granted.

But let us see how we learned physics and we will discover that physical conceptions and physical insight come only from our being repeatedly exposed to those ideas. Surely one could not expect students who have had a very elementary first course,—a once over course if you please—to have much of a definite product at the end of a year. At least he will not have much that can be shown by rigorous, written, memory fact examination.

Dr. C. R. Mann recently said, "—we do not any of us know at the present how to teach any of these things. Our ignorance on questions of teaching is very vast, and the only way we will ever find out how to teach is by experiment, and experiments do not succeed in convincing people on educational questions unless the results are measured by objective tests that we all understand. There are no scales of achievement in mechanics which we all comprehend."

Such may be said of our physics teaching. Until we have such tests and scales, and until we have in general common aims in teaching physics, we shall disagree as to the product and as to the unification desirable.

HOW UNIFICATION CAN BE OBTAINED

S. E. Boomer, Carbondale

When I began thinking on the topic assigned me for this discussion I became thoroughly discouraged. It has been my task to try to show how the work in a village high school with a poorly prepared, underpaid, over-loaded teacher, whose tenure is short, with a hundred dollars worth of unorganized apparatus can be made as good as that in our magnificent city and township high schools with well paid specialists rather permanently in charge of superbly equipped laboratories. I frankly confess I have not solved the problem. We must try to find how the poorer schools may be brought up toward the level of the best; we must not think of bringing the best downward for the sake of unification.

I shall speak of the following difficulties in the poorer schools: Lack of preparation of the teacher, his heavy and varied program, influence of general science, lack of sufficient equipment. Soon after Dr. Hopkins asked me to take this place on the program I called together all our Normal school students who had taken physics in the high school and asked them a series of questions. Their written answers showed a variety of opportunities. Some of their instructors taught physics only with perhaps three sections, others had chemistry or mathematics or both, still others had biology or history or English,—anything and everything I presume which the other teachers could not or did not have time to teach. Practically all had used good texts. Usually they had rushed over the last part of the book. Some had used manuals, some had not. Apparatus varied all the way from none at all, if I may

include the non-accredited schools, to the admirable equipment in our very best high schools. All those from accredited schools had spent approximately one hundred twenty minutes per week in recitation and one hundred sixty minutes per week in laboratory for eight and a half or nine months. One young man answered, "Fifteen minutes per day in recitation, no laboratory, Avery's text, the lady teacher had about twenty-five other recitations each day." While no credit was allowed for this work this answer increased my hope for the small school. The young man, now a senior, is my laboratory assistant and knows more physics than any other student I have ever taught. I think his strength is due in part to the fact that in that early course he solved many problems and fixed thoroughly in his mind a few great principles.

Many teachers of physics have had no courses more advanced than those they are trying to teach. I presume this is true of chemistry as well as physics. This unfortunate condition can be corrected only when school authorities appreciate the need of preparation, are willing to pay for it, and require it of their teachers. But many whose opportunities for scholarship and professional training have been too limited are not doing as well as they should because they lack definite purpose. A marked road is a wonderful help to one driving through a country with which he is not acquainted. The inexperienced or poorly prepared teacher, no less than the tourist, needs to know where he is going and needs to have the road well marked to his destination. I wish that every teacher of physics had access to *School Science and Mathematics*, especially volumes six to seventeen inclusive. I wish he would read practically every article having to do with the subject in those volumes, but I would have him read over and over again the symposium in volumes eight and nine. Fortunately this symposium can be obtained in pamphlet form. Many and conflicting views are expressed in this excellent magazine, but the teacher who reads it intelligently will come to have a definite purpose of his own and definite methods of attaining that purpose. Obviously this is far better than blind imitation of some one teacher or author. Even a carefully prepared paragraph or two in the high school manual reflecting the thought of the best teachers if agreement be possible would be very helpful to the many who use it.

A more careful grouping of the teacher's work in the small high school would be helpful. Physics, chemistry, and mathematics, or physics, chemistry, and biology certainly ought to be as wide a range as should be required of one teacher. Twenty-one periods a week in science or fourteen in science and ten in mathematics should be enough for one man's job, but there are those who have thirty or more periods a week. Improvement in this respect is also dependent on the willingness of school authorities to provide larger teaching force. In some cases the difficulty results from offering too many electives. Better a narrow course well done than wide opportunities for electives if poor work results.

During the last few years general science has been making a strong bid for a place in the curriculum. Many schools have included it, many have not. Presumably students in the former are better equipped for physics and chemistry than those in the latter and they should be the stronger when they have finished these courses. Time, a few years I think, will adjust this difficulty. This rather new subject will have won its way into practically all the schools or it will have been found wanting. I am not an enthusiast on general science; I would prefer a unified science course such as suggested by Professor Millikan. This would put science earlier in the curriculum where more students would get it and where their abilities have not yet differentiated so widely as they have later. I do not offer this as an argument for unification,—rather a tendency toward unification would result.

At the risk of digression let me say a few words concerning the fear some have in regard to lack of mathematical preparation in this plan. Somewhere on this campus is a thesis for Master's degree on the subject "Mathematics Necessary for an Elementary Course in Physics." If I were writing

it over I should revise it a good deal. I have had many very strong students in physics who had never had a day of geometry. Two years ago two young men from a rural school came to me and asked to enter the high school physics class. I asked how much mathematics they had taken. The answer was "Arithmetic." I replied, "Oh, you could not carry physics without algebra. Just look at those difficult equations in the text and the manual." Some of the boys back home had told them to be sure to take physics and they were very anxious to try it. This flattered the department and I yielded assuring them that I would not be responsible if the work was too hard for them. A little special explanation made the equations clear to them and they were two of the strongest in a large class. There is not very much algebra and geometry in high school physics.

In equipment there is opportunity for improvement without asking for larger appropriations. Inexperienced and ill prepared teachers need help in spending the precious little money appropriated for apparatus that they may build up a unified laboratory. It would be embarrassing for me to read to you a copy of my first bill. I could reproduce most of it from memory and I confess it was a strange looking collection. As one problem in a teachers' course which I gave two years ago in the University of Minnesota I had each member of the class make out bills for apparatus first assuming eight in class, one hundred dollars first year with the promise of fifty dollars the second year; second, assuming twelve in class with two hundred dollars the first year and one hundred fifty dollars the second year. Each pupil selected a manual from a list of eight or ten which had been examined "with a view to adoption." An abundance of catalogues, special lists, etc., were at their disposal. It proved to be the hardest problem of the course. Many unwise selections were made. Apparatus was included which could not be used without other apparatus which was omitted. I require some of this kind of work in one course in the Normal school but unfortunately many of our graduates teach physics without taking this course. The numbers in the classes and the appropriations suggested may seem very small but the teachers in these institutions need help more than the well prepared men who go into the large laboratories.

By running four experiments at a time a class of eight can do fairly well with one complete set of apparatus or a class of sixteen with two complete sets. If it is impossible to provide this much for all of the experiments required it seems to me that a series of special studies might well be substituted for part of them, perhaps a maximum of one-half the total number. Let the apparatus selected supply a fair amount of quantitative work and the substitute studies take the place of qualitative experiments. In this case it is very necessary to use part of the money appropriated to buy a few books and subscribe for two or three magazines not too difficult for the boys and girls to enjoy.

Fortunately those in smaller schools have abundant contact with simple applications of physical principles. I desire to emphasize the word simple. These are much better than complicated applications. A farmer boy will enjoy telling the class how the pulleys on the hay fork are arranged, the purpose of each, the mechanical advantage, and possibly the approximate efficiency. Another will describe and discuss the steelyard, the wagon scale, double trees, and triple trees. One of the girls may take centrifugal force as a topic and use the cream separator as a text. Another whose parents are planning to build a new home will make special preparation on heating systems, as hot air, hot water, and steam. The son of a hardware merchant will have special opportunities and special need for learning all he can about pumps. Having done so he will enjoy telling it to the class at the store with the pumps for demonstration or at school from careful drawings and pictures. One laboratory day could be used profitably in a visit to a garage where the mechanic, previously requested to prepare and proud of the honor, will explain the engine, the cooling system, the vacuum feed, the electric system, transmission, differential. Another day should be spent with the lo-

comotive; the engineer likewise previously enlisted for this service will explain the boiler, the steam chest, the eccentric, the valves, etc. A day at the telephone exchange, one at the light plant, one at the ice plant,—these are only a few of the many opportunities for special studies based on subjects treated in the text and therefore easily coordinated with it. This work should be quite as carefully planned and directed as that in the laboratory, and the members of the class should be held quite as strictly for oral or written reports. In some of these studies all of the class will be required to report, in some only a part of the class, in others only one.

The books and magazines will be helpful in dealing with such subjects as "Wireless," "Electric Heating Devices in the Home," "Sound detecting apparatus used in the War," "Revelations of the Microscope," or of the "Telescope," or of the Spectroscope." Some of these sound like big subjects for boys and girls. Well, they are not expected to exhaust them.

Now our chief purpose is to train pupils to think straight, scientifically. I believe the method I have suggested can be used quite as effectively for some of the laboratory work, not all, as much that is done in the better high school laboratories today. Because of advantages of close associations with simple applications, because of better opportunities for the teacher to give individual instruction in the class room, in the laboratory, and in these special studies, and because of fewer dissipating influences in the smaller schools, I think it is not too much to hope that the quality of the work in these schools may approach very close to that in the larger and better equipped schools.

HOW MAY THE HIGH SCHOOL MANUAL BE MADE MORE USEFUL

George D. Mounce, La Salle

The feeling of unrest so evidently manifest among teachers of physics and chemistry has its root in the growing unpopularity of these subjects in Secondary Education. To quote from Dr. Snedden's recent book on "Problems of Secondary Education," "They are taken in a perfunctory spirit chiefly by pupils anxious to meet college entrance requirements. The work has become exceedingly formal and unattractive. It is not apparent that such students possess as a consequence of their study, any extensive appreciation of what we mean by scientific method. They are usually quite helpless in endeavoring to interpret applications of physical science to practical affairs of life. They have dealt so long with applications of a very abstract character thru formal and technical work in the laboratory, that the whole subject seems to have become more or less distasteful, and to be associated with problems that are unsolved, and to a large extent incapable of solution."

We may not agree with Dr. Snedden, and may think that his summary is far from the truth, but a flood of evidence in the form of statistics forces us to take notice of the fact that the subjects of physics and chemistry are losing ground.

Perhaps we are not ready to admit that science teaching has not measured up to modern standards of efficiency, but are we going to camouflage statistics and say that we are conducting a strategic retreat? The aims and purposes of physics teaching in the high school as set forth in the prefaces of one-half a dozen recent texts may be summarized as follows: To enable the pupil to interpret correctly the physical phenomena of every day life; to cultivate the scientific attitude of mind; to develop students who not only think, but, like good workmen, find expression for their thoughts. Teach physics because its pursuance has successfully met human needs, because it imparts information that the pupil feels is of distinct value to him, because it stimulates the pupil to do some thinking on his own account about the "hows" and "whys" of the physical world in which he lives.

These aims and purposes must be realized largely thru laboratory teaching and the character of our laboratory exercises has been, I believe, the chief source of dislike by the student. The work has been entirely too quantitative in character, too tedious in manipulation, too exact in requirement, too superficial with reference to deductions and conclusions.

Let us look at the influences that have determined largely the character of our laboratory instruction:

First and most important of these has been college entrance requirements, and since laboratory methods were first developed by the colleges it is natural that the high school course required for entrance should be a miniature of the college course—diluted, 'tis true, boiled down, rehashed but bearing nevertheless, the ear-marks of their prototypes.

The second influence, which by the way has made for the survival of the present laboratory method, has been that of the young college graduate, who having worshiped at the shrine of "Young's Modulus," "Angle of Minimum," Logarithmic Decrement of a "Ballistic Galvanometer" and "Simple Harmonic Motion" goes forth to teach physics in our high schools, and gives vent to his enthusiasm by introducing methods of the specialist and research man, without stopping for a moment to consider the natural interests and mental processes of the high school boys or girls. He has ignored the practical needs of the ninety-eight per cent who never go to college, but after their high school course go out to meet the problems of every-day life.

The development of the high school manual has not kept pace with the development of the text. Seeing a distinct demand for a text whose course is closely related to the pupil's environments of the home, school, town, country, authors have published some admirable books, but they have failed to improve the manual and this brings me to my topic "How may the high school manual be made more useful?" In trying to answer this I wish to submit the following changes for your consideration.

1st, the list of laboratory exercises should be carefully revised; but what shall be our criterion in deciding which are best? Principles must be taught and those experiments involving principles that are fundamental in interpreting the pupil's environment are most important. This will involve a curtailment in some topics and additions and enrichments in others. Experience leads me to believe that the following exercises could be omitted without in any degree impairing the usefulness of the manual:

All exercises that have for their purpose the measurement of lines, surfaces, volumes, and the calculation of ratios between metric and English units; all exercises that have for their purpose skill in the use of the vernier and micrometer caliper.

If the laboratory possesses a barometer of the Fortin type, when the pupil comes to use the barometer, then is the logical time to explain the use of the vernier. The caliper might be introduced when determining the law of resistances of wires.

I would omit exercises showing various methods of determining densities of liquids such as "Hare's method," "balancing columns". One exercise involving the floating hydrometer, the commercial hydrometer, especially the Lactometer and the Baume, should be sufficient. The pupil is not likely to be very much interested in density of liquids unless it can be related to some problem of daily life, such as testing the grade of gasoline his father buys for the car, or determining the point when the storage cell is charged. He will appreciate the value of density determinations when he is shown that it affords an easy means of determining the percentage of alcohol distilled from the cough syrup he takes, or the "Electric bitters" and "Peruna" that his mother keeps for emergencies. Yet how many manuals have placed any emphasis on the importance of the commercial hydrometer?

We could well afford to dispense with a laboratory determination of Boyle's Law, involving as it does long tedious calculations and curve plotting. Does the hyperbola give the pupil any clearer grasp of the relation of pressure to volume of gas than can be obtained from the use of a bicycle foot pump and a pressure gauge? I am indebted to Mr. Barber, a friend and former teacher of mine, for the method that I now use. A bicycle foot pump is connected to a pressure gauge. Crowd down the piston until the volume of air is reduced to one-half of its original volume; the pressure gauge will register 30 lbs. per square inch. If crowded to one-third its volume, the gauge will register 45 lbs. per sq. in. The demonstration requires but a few minutes and it has never failed to impress the pupils.

Omit the exercises dealing with the co-efficients of linear expansion, cubical expansion, static electricity, types of liquid primary cells, measurement of resistance by Wheatstone bridge.

2nd: the usefulness of the manual may be increased by the addition of exercises that are vitally related to the environments of the pupil, such as the efficiency of ordinary gas burners, electric heating devices commonly found in the home. An extended exercise in photometry, in which the student measures the candle power of old and new carbon lamps, tungsten lamps, nitro lamps, the effect of inclosing the lamps in globes and shades, the effect of dirt and dust on the amount of light transmitted, the candle power of open jet and Welshbach mantles and their cost of operation, and finally a summary in which the pupil calculates the cost per candle power per hour.

Exercises involving an extended study of heating systems, ventilation, relation of humidity to bodily comfort should be given much attention. The school plant will offer a splendid opportunity along these lines. A study of ventilation would involve Archimedes' principle, Charles' Law, as applied to the solution of the question of why the chimney draws or the air circulates.

Starting with the camera an excellent series of exercises may be introduced, all leading to the solution of the question of how the camera works, action of the range finder, and lens values. Those exercises which include pin-hole images, refractions, images formed by convex lenses, focal length of lens, diffractions, chromatic aberration, function of stops in producing definition of image, depth of focus, field of view, speed of lens as expressed in F values, astigmatism and correction by an anastigmat lens, Halation and double coated plates—Orthochromatic plates and ray filters.

With the human eye as a problem—and the optical disk a series of exercises leading to explanations of defects of the eye and their correction will prove very instructive to the pupil.

3rd; The third suggestion of making the manual more useful in a wider use of English units—Where possible substitute them for the metric units. With which units has the pupil been dealing? Which forms a basis for apperception? The pupil brings home from the store a pound of butter or now perhaps oleo; the can of Heinz's baked beans bears the label, "contents 12 oz." net. The directions say dissolve the contents of the tube in eight ounces of water. His father's car can make 60 miles per hour or perhaps make twenty miles on a gallon of gasoline. We seemed to have ignored these facts and we say forget these vulgar units; Please don't mention them in this sacred laboratory that has divorced itself from the world. You must say gram, centimeter, liter." Until the metric system is adopted in our country we only complicate and confuse by introducing a set of units that are new to the student.

Is there any reason why the foot rule could not be divided into decimal parts of inches or the scale weights into decimal parts of pounds or ounces? Practically the only C. G. S. unit that need be studied is the

calorie, and tables showing heat value of foods should be expressed in calories per pound. Which heat unit will the house wife more likely understand—the calorie or the B. T. U.? The heating value of the city gas is expressed in B. T. U. per cubic ft. Likewise the value of coal in B. T. U. per pound. So also should the heat of fusion of ice, heat of vaporation of steam. Linear Coefficients might well be tabulated using the Fahrenheit scale, likewise specific heat of solids.

The last suggestion for making the high school manual more useful is this: The character of the exercises should emphasize life-size real-working apparatus, wherever possible. Toy dynamos, minature lamps, toy pulleys lifting toy weights, and supported on thirteen millimeter rods can hardly interest the boy who almost daily comes in contact with hoisting machines, gasoline engines, dynamos, and motors.

Where does the man who owns a car learn how to care for his storage battery? Does he refer to the text he used in physics?—no—he depends upon the manufacturer for such information and right here is where the high school manual may be very helpful by including a list of manufacturing firms that would be glad to supply the high school valuable advertising matter. The manufacturer knows that all descriptive matter must be put in the plainest non-technical language for the average buyer. Among this list might be included—Manufacturers of hot air furnaces, hot water and steam plants, systems of forced ventilation, fireless cookers, gas and electric ovens, dynamos and motors, steam engines, sewing machines, etc.

Because of the wide diversity of apparatus to be found in different schools, no definite directions should be given in the manual. I believe the manual should be a help to the teacher and that it should be put less and less into the hands of the students. No doubt, students lose valuable time in reading and following out minute directions in the laboratory where many such exercises could be given with teacher and pupils working together the teacher directing—suggesting or asking for any suggestions—a few students taking readings—but all students making calculations and drawing conclusions.

Summarizing very briefly—Laboratory teaching should deal with problems that are of interest to the pupil and considered by him worth while. It should cultivate the scientific attitude of mind by enriching such problems that come within the daily experience of the pupil. And the laboratory manual will be come more useful in securing these results if it is revised and enriched, if it emphasizes the English units; if it stimulates the further use of larger apparatus and if it becomes a distinct guide—full of helpful suggestions to the teacher.

SOCIAL SCIENCE SECTION

Meeting of Social Science Section called to order at 9 o'clock, M. L. Flaningam presiding. The discussion was opened with a paper by Elizabeth W. Gaynor, of Urbana, which follows:

In these moments of the world struggle the history teachers of America face certain problems all their own. America's part in the great War is not yet fairly begun, but the day of stress is not far off, and the years which are coming will probably mean keenest exertion for all world children, in the desperate struggle for survival. In far greater measure than the past has been so the future will be for the efficient, the highly trained, for those who stand ready to meet opportunity, clear of thought and quick of action.

To satisfy the demands of this new and more efficient America many changes will be made in the content of school courses. All wasteful, random hit-and-miss methods must go. How will these new demands effect the course in American history? This is one problem. Needless to say, they will hasten the readjustment and alteration of the history courses which teachers have long desired. And this alteration will be in the direction of Industrial History.

A questionnaire, sent out a year ago received answers showing that the teachers over all the United States are dissatisfied with the content of the history courses, particularly of the American History. The teacher of American History feels at a certain disadvantage.

The peculiarity of the American History course among the high school studies is that it has been preceded by American History in the grades. The authorities provide American History for the sixth, seventh and eighth grades in order that those little citizens who finish their education in the eighth grade may know well their country's story, but the others who go on and finish the high school are obliged to receive one more impression during the later years of the course. This later American History should be neither a mere repetition nor an amplification of the eighth grade work. And yet, I believe, very often, the high school course is merely a review of the eighth grade course.

One trouble with such an American History Course is that attention is fixed on the boys and girls who are going to university, the course must prepare them to shine in college classes; but that view of a class is fallacy by the simple American test of majority rule: the majority of young Americans do not go to University. School life fits them for life's school, and the break between lessons and life should be as slight as possible, lest they, losing faith in the workableness of the school lessons and tossing all away as something sentimental and apart from fact, plunge into the battle of life as savage, in reality, as the Indian children who, leaving the reservation school educated, revert in practically every instance to the uneducated tribal type. And so I have come to one conclusion: American History in the college and university is principally for history specialists. American History in the high school, should be intended for people soon to be engaged in business pursuits. History's only use to them is an introduction to life and an interpretation of life. American History in the high school, then, should be an interpretation of American life and an introduction to the American business world of today.

Do not misunderstand me. History is principally and always a cultural study. But what is culture? The Latin synonym for culture *humanus* helps us here. Culture will result from the study and appreciation of that which is human. History is cultural in that it teaches the child to appreciate and understand human achievements. The object of our history study is not principally knowledge, but wisdom, understanding, appreciation, sympathy.

Thus American History will be a cultural course, while being at the same time interpretative of, and introductory to, life, the real life of the day for our young automobile dealer and his class mates.

High School American History, then, while recalling to the class the same facts already pretty well mastered in eighth grade should give a new version of the facts.

Let us try to decide what this new version should be. "Let us begin by asking ourselves what, considering the needs, capacities, interests and future careers of the boys and girls in our secondary schools, is it most necessary for them to know of the past in order to be as intelligent, efficient and happy as possible in the life they must lead and the work they must do?" Let us ask what results ought to be obtained from the Social Studies by the close of the High School course, or rather let us ask, what good

results should the Social Studies in the High School, particularly American History, contribute to the mental and spiritual equipment of the American? American History in the High School should give to the American citizen:

1. Comprehension of the spirit of Democracy, which includes respect for the average man.
2. A sense of social responsibility.
3. Devoted and enlightened patriotism.
4. Respect for the economy, industry, and thrift which have made the America that we see today.
5. Appreciation of the great business enterprises which have built up the fabric of our national prosperity.
6. Sympathy with the cause of Labor, with the poor, the unfortunate.
7. Comprehension of the fact that the Americans are "an idealistic people."
8. An understanding of the problems which this country must solve,—such as Strikes.
9. A spirit of internationalism.

In addition to these, American History should leave with our pupils definite concepts to respond to the mention of words or phrases like Jefferson, States' Rights, White Man's Burden. And there should remain also certain chronological and geographical concepts.

These latter items, generally regarded as the particular and important content of history teaching, I place last to indicate their subordinate importance in the High School Course. Facts, locations, and dates our student should know, but let us not forget that "he learned them all in the eighth grade," with a more retentive mechanical memory than he now possesses. An investigation made by me among my own classes this year showed that my students knew as many facts and dates concerning the salient events of our history up through the Reconstruction Period, as a result of this same excellent eighth grade teaching, as I expect them to know four years after having finished my course.

History is the history of a people set free upon a vast continent to follow up the ideal of certain great leaders. It is the story of this people's failures, their glory, their errors, their wisdom, their righteous pride, their boasting, their mistakes and their success. But American History teachers have often ignored the people, the Demos, the average man, (whom Lincoln said God loved). In imitation of the historians of monarchic countries and feudal times our historians generally have given account of the leaders, the rulers, the geniuses, the exceptional man, and have ignored the deeds and interests of the average man who is, after all, the great figure in a democracy. We say the average men hold the final sovereignty in all government. Is it then fitting to ignore them in telling the history of any country,—least of all America?

Popular interest in the story of the average man, the maker of America, dimly realized, is the secret of the popularity of the life of Lincoln. Not as Lincoln the President nor as Lincoln the Emancipator does he come closest to the popular heart, but Lincoln, the railsplitter, the flat boat hand, the country postmaster, the struggling self-made lawyer, Lincoln, a plain, simple, unassuming American, very much like other folks.

It is, then, the story of the average folks that we should study. And what is their story? Why the simple, the exciting, the romantic, story of earning a living. Why ignore this in history? This is what the American people had to think about and did think about, must still think about, nine-tenths of their waking hours. Thus they shape the material life of America. Not all of life, certainly, is wrapped up in earning a living, but all of life is founded upon it.

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The history of America is the history of the human struggle to live, to subdue a wilderness to provide shelter for wife and child, to secure a

competence, to obtain education. That history is written not in blood, but in muscle and sweat. That history our young American spenders should know. They need to know it, they want to know it. Their ancestors, those average men who made America, cry out in them to be remembered for their long patient struggle, their quiet, humble, commonplace heroism.

So our history must present the inspiring story of earning a living which began with the first days of colonizing. And our classes must know the story of the first corn planting in Virginia, the early discovery of a staple product, tobacco, the plantations up the rivers, with their wharves where came the English merchant ships. They must see the frontiersmen, the Germans and Scotch-Irish moving up the Shenandoah valley westward, see the prairie schooner rocking along across the prairie, and the flat boats on the Ohio, where later the puffing steamboats ran. These stories of what the common man has done for America and what America has done for the common man are one of the surest sources of enlightened patriotism. America is the country that her high souled founders hoped to establish, the land upon which Europe's weary statesmen dreamed and mused. I think sometimes we teachers are inclined to be a little cold where we should be glowing. Sometimes the young folks themselves fire the class by sounding that high note of devotion, as one day last year a reserved and rather ungracious little fellow interrupted a sober class discussion with the impetuous cry "But a man can't do enough for his country! His country makes him all that he is and all that he hopes to be!"

The great business enterprises so closely associated with the name of America! It has been the fashion to decry those. They are fraught with dangers to the public; monopoly, brigandage, baronage, corrupt politics, yet the intelligent American must give them the respect due to all human achievement and recognize the good that they have done and their possibilities for greater public service. What do we not owe to the railroads, to the mind that planned and the muscle that laid those ties that bind?

Public sympathy with the cause of Labor is one of the most important results of social study. Your true democratic American must think with brotherly kindness about the man less fortunate than himself, he must wish for and work for the greatest good of the greatest number. So shall our more serious labor troubles be settled by wise legislation and strikes and the threatened Socialist Revolution be averted from our land.

Something of the greatness of other nations should be taught. Americans have been called provincial-minded. They must not be so. Clarence D. Kingsley in *School and Society* Vol. 3 calls for a course in the Study of Nations, that our young people may see at once the greatness of other and distant lands and the true greatness of America. Then too our young people are at the right age to thrill to that vast thought—"Above all nations is Humanity" although as our syllabus truly says the best preparation for such love of humanity is a true and enlightened patriotism, just as a true citizenship presupposes ideal family relations.

To outline the content of the course in more definite form; counting 180 days to the school year, I calculate that 72 days are sufficient time for a chronological review of the main topics of American political history, as these are usually treated in text-books. As far as possible these events should be treated from the economic and social points of view. Twelve more days should be spent on the lives of twelve great Americans, who are treated not because they are exceptional men, though they were, but because they were typical Americans. The individuals I have chosen as demanding separate study from a class in American History are: Franklin, Washington, Jefferson, Hamilton, Clay, Webster, Jackson, Lincoln, Lee, J. J. Hill, Edison and some social worker of the day, probably Jane Addams. In our school we study current events one day a week from the *Literary Digest* as a text.

This leaves, then, sixty-one days for the study of some topics, which deeply significant in American life, as they are, call for topical treatment:

These are: Westward Expansion, Railroads, Concentration of Business, Factories, Child Labor, Capital vs. Labor, The dangers of Socialism, The Slavery Question and its Successor, The Race Problem, Fortunes gained from natural resources of the country, Foreign Commerce, Political Parties, The Tariff, Immigration.

In addition to these topics of a socio-economic nature, there should be added a brief history of the following cultural topics: American Music, Art, Architecture, Libraries, Education, Philanthropy.

I have given the above outline of topics in the form of a positive statement of definite material to be included in the content of the American History Course, not so much that I have anything final to offer as that I would like to offer some positive assertions outlining the complete morning's discussion, a discussion out of which I sincerely hope we may arrive at a final answer to this question,—What shall be the content of the last year's course in American History?

The discussion was opened by a paper by Elizabeth Barnes of Joliet. This paper has not been received.

The discussion was continued by C. C. Dickman of Peoria:

The definition of the content of the American history course depends on the understanding of what constitutes the United States today. We are told that sixty per cent of the wealth of the country is held by two per cent of the population. Thirty per cent of the people live in poverty. Poverty is defined as involving the lack of proper food, clothing, and the three rooms in which to live decently. I see this great society divided into two classes. In England there are two classes—landowners and those who do not own land. In America two per cent of the people own capital. Ninety-eight per cent do not. It is impossible for a workingman now to own capital.

What were the great forces that caused America to become what it is? What caused the discovery of America? It was not because of the scientific principle that the earth is round; it was brought about by economic reasons. For that reason Columbus sailed westward; the explorations in general were inspired by the purpose of getting wealth. The settlement of Plymouth by the Pilgrims was due to their seeing an abundant supply of fish. We know that the causes of the Revolution are to be found in the Navigation Acts. It was liberty we fought for; but liberty is only a word. Liberty of what? The foundation of all our wars have been commercial, growing out of the desire to get the necessities of life. Our government under the constitution was due to the conflict of trading interests. Its development has been stimulated by economic forces. When railroads began to be built they were encouraged and aided in every way. After a while it was found that the railroads had gotten the upper hand; the result was regulation by the Interstate Commerce Commission and by state public utility commissions under the idea of controlling property. Why then do so many want emphasis on political developments? We do not live for the state as in Germany. The history of the past of other countries has covered the deeds of the kings. We have gotten into the rut and have gotten the wrong emphasis. More than ninety-five per cent of the people spend all of their time for the government; the greatest part of their time is spent in earning a living.

I have one criticism of Miss Gaynor's paper. She would study Washington, Lincoln, and others as typical Americans. I think they are not. They are ideal Americans; the type toward which we strive. Our history ought to be the history of the people because that is American. One other

fault I wish to emphasize, that our High School history must not be a rehashing of eighth grade history or of college courses. I find great difficulty in getting my students out of the rut of speaking and writing in terms of grade history. These difficulties, however, we have been able to avoid in a course in industrial history, over which we are very enthusiastic.

Miss Gaynor explained that she studied the great armies as typical, for instance, Washington as a Virginia planter.

Professor Greene—We can use this biographical data as reflecting the life of the times. The experience of George Washington as a frontiersman was typical. The frontier experience was a very important part of the life of George Washington. That experience of his was typical of what the American people were undergoing. Our American history ought to be made up of individuals. But the experiences of the exceptional individuals are not all exceptional. I think you would be surprised to see to what an extent they were the same as those of the vast bulk of people.

A general discussion followed with the aim of suggesting specific items that ought to be given consideration in the course:

Miss Janson of Robinson Township High School—Platforms of political parties reflect the ideas of the people. They ought to be used.

Mr. Bockstahler, Arcola Township High School—Geography makes history. The American people have become a great economic group because of the mineral resources, agricultural resources, etc. They ought to be considered.

Mr. Babbitt, of Oak Park High School—called attention to the statement in the bulletin of the committee on social studies, page 41. He took issue with the statement, declaring that the vital problems change; for instance, the importance of the slavery question so great in 1860 came to an end a few years later. We must try to foresee new issues. Miss Gaynor suggested teaching the dangers of socialism. Though not a socialist he felt that from the trend of things, the world was rapidly moving toward socialism and that we might need to teach the other side rather than the menace.

Miss Gaynor—The study of Current Events serves to keep one alive to new issues. There are dangers in socialism that must be taught although the point should also be made that many of our best ideas today have come from the platforms of the Socialist Party. One of the ablest men I have known, though not a Socialist, declared that all recent reforms had been taken from the planks of the Socialist Party.

Professor Robertson—thinks the social and economic sides have been stressed enough. He is surprised, however, that so little consideration was given to international relations, especially to relations with Latin America. Should not the course be treated from the standpoint of America rather than of the United States?

Mr. Van Cleave, of Olney Township High School—We study Spanish explorations but then drop Latin America. This side ought to be followed up in the latter part of the course.

Miss Katherine Renich, of Clinton High School—The text-books give too little consideration to this matter. That is what makes teaching in general so bad. Text books are especially weak on the period since the civil war.

Mr. Rugg, of Monmouth High School—On the revolution most texts make no reference to conditions in England, to the great liberals who were on the side of the colonies. Emphasis ought to be put on international relations, on ties to Europe, internationalism.

Professor Tryon, of University of Chicago—suggested that a constructive program ought to grow out of this discussion. Certain eighth grade dates ought to be assumed; what dates? On geography, make a list of maps. Have such a list presented to the section and discussed.

Another speaker suggested that international relations could be treated in connection with the Monroe Doctrine. Study the Holy Alliance and American attitude toward it. Do the same in connection with the application of the Monroe Doctrine.

Professor C. M. Thompson—objected to application of the term "American" as applied to the United States; he wondered what part of Latin American relations ought to be included in American history. He did not think that the content of the text book ought to be identical with the content of the course. Some of the points mentioned were properly covered in other courses—civics, economics, sociology, etc.

Professor A. C. Cole—A syllabus for the course ought to include not only a list of topics to be treated but some indication of the way in which they ought to be treated to conform to the highest ideals of history. Teachers ought to be made acquainted with the latest and soundest results of historical research. Interpretation and proportion has changed greatly in the last fifteen years. Teachers ought to appreciate the imperial side of colonial history, to understand that the revolution was in one sense a civil war, in another, part of the great international struggle, to understand the forces back of the framing and adoption of the constitution, to see the significance of the economics of the institution, of negro slavery, etc. In other words, the teacher might be embarrassed by a definite list of topics, if he did not know what to do with it in the way of up-to-date treatment.

The discussion resulted in the passing of a resolution for the appointment of a committee of five to draw up a syllabus of the content of the course in American history. The committee appointed consists of C. M. Thompson, University of Illinois; R. M. Tryon, University of Chicago; Elizabeth Gaynor, Urbana High School; A. F. Lyle, Mt. Carmel High School, and C. C. Dickman, Peoria Manual Training High School.

Professor Greene raised the question of a separate organization for the history section which resulted in the decision to appoint a committee to consider all aspects of that question. The committee will consist of Professor E. B. Greene, Katherine Renich, Clinton High School, and Elizabeth Barns, Joliet Township High School.

Afternoon Session.

The afternoon session was called to order by Prof. L. M. Larson. A. F. Lyle of Mount Carmel High School presented a paper concerning the content of a course in "Problems of American Democracy":

A time like this when we have pledged ourselves to all that we have to the last dollar and the last man to make the world safe for democracy suggests the importance of considering the nature of democracy and the peculiar problems which this form of political and social organization presents and especially those problems which are peculiar to democracy in America. It suggests that when the world has arrived at the point where even murder calls to its help all the resources that science can supply, one of the highest functions man performs, namely governing himself, should call for no less a degree of preparedness. It suggests the wisdom

of inquiring whether democracy is to be defended only by armies and navies. May not democracy be in danger from internal as well as external foes? Is autocracy the only enemy to be feared? May it not be that there is danger of misapprehension of the meaning of democracy and a failure to catch its spirit and inspiration; a feeling of false security that argues that because we have a democratic form of government a kind of providence will see to it that it governs us efficiently while we pursue our own selfish ends?

Are we to boast that democracy means equality of opportunity and to forget that it means equality of responsibility? Is it not the mission of the public school and especially the public high school to train its students to make use of their equal opportunities according to their several abilities and likewise to inspire them to bear their equal burdens of responsibility?

May we not be in danger of forgetting, under the pressure of the demand for more utilitarian work in our public schools, that the primary purpose of the public school is to produce men and women, strong in body, clear of mind, and tender of conscience, with such a conception of their relations to their fellows and with such a righteous attitude toward them in all these relations that they may be safely counted on not only to make the world safe for democracy but to make democracy safe for the world as Dr. Bagley has so well expressed it. This realization of a socialized personality requires that the ends striven for must be conducive to the social welfare, and not only so but that they must be realized by means that are socially desirable. This means that the individual must come to take the social point of view as a matter of habit. The desirability of his acts must be estimated in terms of their total effects upon society.

It is so true that it is trite that the real justification for the expenditure of public money upon the high school is the production of an improved citizenship; it is equally true that courses intended to contribute to citizenship should be made maximally effective, and what course could better serve the ends of citizenship than one embracing concrete problems of social and civic relations?

Dewey says: "The great danger which threatens school work is the absence of conditions which make a permeating social spirit possible," and he points out that a necessary condition of a socialized school is that the school shall form a miniature group in which "study and growth are incidents of present shared experiences." He further shows that learning in school should be continued continuous with that out of school and that there should be the largest possible number of points of contact between the school group and the larger social group.

It was with the purpose of bringing about this closer more vital connection between school and society, I have no doubt, that the proposed course we are to discuss here was suggested.

The N. E. A. Committee on social studies in secondary education have recommended "that the culminating year of the high school, with the purpose of giving a more definite, comprehensive, and deeper understanding of some of the vital problems or issues or conditions, as they occur in life, courses in Problems of American Democracy and in their several aspects, political, sociological, and economic.

The supreme problem of American Democracy is to produce a citizenship adequate to the problems that confront them, a citizenship, not only intelligently seeing the problems of democracy but imbued with its spirit, which means equality of opportunity and duty for all regardless of race, sex or religion; citizens of a force and vitality that will be found equal to the severest strain that may be put upon them; citizens with an intellectual strength and a training that will enable them to grasp clearly and handle effectively the perplexing problems that arise in a highly complex economic, social and political organization in which we now find ourselves and which

is certain to grow more and more complex from year to year; citizens so thoroughly socialized that they will place the common good above individual interests at all times, citizens not lacking in initiative for private enterprises, but equally equipped with initiative, enthusiasm, and persistence for public ends.

This last requirement is one of the most difficult we have to face, for the reason that our whole system of dealing with children and youth in the past, in the home, the school and in society has tended to foster the individualistic spirit rather than the social spirit. It will be necessary to reorganize our whole educational policy to effect that complete socialization of youth that the requirements of modern democracy demands. This does not mean a suppression of individuality but a higher development and a more complete expression of individuality.

It is to be borne in mind that a socialized democracy such as Dewey and Bagley have in mind and such as many who have not read either are vaguely conceiving, has not yet been achieved. It is something very different from the shadow democracy of 1776, or the much more aristocratic organization mapped out by the convention of 1787. Still more does it differ from a democracy on paper such as existed in Mexico under the Diaz regime, or the Plutocracy which has been so prominently in the public press in America in recent years and which wielded its power long before it achieved notoriety which was the logical outcome of the individualistic democracy of Jefferson and Jackson and which many people believe to be as enduring as one of its 999 year leases. It can only exist when a majority at least of our people have been thoroughly socialized.

This socialized democracy is not an Utopia to be obtained, but an ideal to be striven for, not a goal to be reached but a higher point of vantage to be sought as a starting point in seeking a higher and ever receding goal.

As part of the solution of this problem of a more effective socialization it appears to me that such a course as that here proposed would be an important factor if wisely presented. I believe such problems might be so presented that they would appeal to the altruistic sentiments of youth and might afford some opportunities for the putting of these sentiments into practical operation, thus furnishing valuable laboratory exercises in citizenship. Certainly they would increase the number of points of contact between school life and the larger social life, and show their essential continuity.

The person who attempts to determine the content of such a course is at once confronted by several difficulties. In the first place it is a field for pioneer work and therefore one is likely to go astray as in traversing any wilderness. Then the problems that come to mind as lying within this field are so many and so various that one is bewildered and confused in trying to decide what to include and what to exclude. It is necessary to decide first upon the method to be pursued in treating the topics. Shall many topics be treated in a very general way, scarcely more than indicating the existence of the problem, something of its importance, and possibly the consideration it has already received, all with the purpose of focusing attention upon it that may lead to further thought and investigation? Or shall a few topics be treated as fully as the maturity of the students and the material available will permit? In this case the purpose would be not only to recognize the existence of the problem, but to discover the conditions that have produced it, and to see not only what steps have been taken towards solving it, but to determine its bearing upon the national life and to discover the factors which must be taken into consideration in any attempt to solve it.

My own preference would be for the latter method, believing that such a course so administered would result in better training and a greater inspiration and would thereby contribute directly to the solution of two of

the problems suggested above, viz, academic training and socialization of the individual, than would the first method suggested. It should be a prominent aim of such a course, I take it, to bring home to each student the responsibility of each citizen in our American Democracy for the well being of all and to arouse in each individual the ambition to make his contribution to the social efficiency and to insure the political safety of our America.

It should be borne in mind that these problems range throughout the whole field of human experience in a democracy and that though lying for the most part in the realms of economic sociology or political science they overlap in a most intricate manner so that to the writer it has seemed impracticable to group them under these labels. On the other hand it has seemed that it would be better to consider the economic, the social, and the political phases of each problem as it is taken up as each one is almost sure to present these three phases at least.

Furthermore I would say such a course presented in the manner contemplated should furnish a considerable body of concrete knowledge and experience which would afford a basis for the more advanced, more scientific, specialized courses to be offered in the colleges, and stimulate an interest that would produce a considerable increase in the registration for these courses.

Still further, it seems to me, such a course would be valuable in high school in so far as it would show the vital connection between school and life. This would help vitalize school work and hold some students in school who at present drop out because they fail to see that there is sufficient of practical value in school courses to justify them in remaining.

The aim of such a course is not academic. Its purpose is socialization. It would result not merely in a degree of intelligence upon the topics considered, but in addition to this and even more important, it should give the student a strong feeling of his personal relation, and this personal responsibility, should therefore make him act conscientiously in the discharge of all his obligations. Not only would it do this but it should help him to realize the relation of his own work, whatever it may be, and of himself as a worker to the whole social process and the whole social group. This sense of social values and social relations will go far towards developing a right social conscience and will be perhaps the highest outcome of the course.

Such a course should be exceedingly flexible it seems to me, and based as far as possible upon first hand knowledge of the student. Naturally in each community those problems which furnish the opportunity for first hand experience would be most interesting and should receive the greatest emphasis.

The problems which I am about to present seem to me to be of very great importance and general application and such as would contribute, if properly handled, to that social insight and social attitude that will go far towards solving the problems of American Democracy and insuring its permanence.

As indicated before this list is intended as merely tentative and to furnish a basis for discussion and further study.

Such a course should be conducted by means of a syllabus and assigned readings, with topics for investigation, the purpose being to let the students come into contact with as much first hand information as possible. The information thus acquired furnishes excellent raw material to be worked up in the class discussions which should certainly take the form of the socialized recitation.

It is the function of the teacher to see to it that each problem is approached without prejudice as nearly as may be, that all sides of each problem, including the side of society and the relation of the student himself as a citizen to the question under consideration is made clear and that conclusions be not drawn from insufficient data.

I have selected thirty problems arranged in four groups. Some of these are not essential problems. They are presented because the society which does not solve them will have no other problems to solve. No doubt the list could be much extended and it would not surprise me at all if it were claimed that some of the problems excluded were quite as important or even more important than some of those included. If any one shall prefer other problems or a different arrangement I shall have no quarrel with him.

The problems are as follows:

Problems to Be Considered in a Course in "Problems of American Democracy"

- I. The conservation of our natural resources.
 - A. Mineral.
 - (a) Coal, (b) Iron, (c) Oil, (d) Other minerals.
 - B. Soil Fertility.
 - (a) How wasted, (b) Difficulty of restoration, (c) Methods of conserving.
 - C. Timber.
 - (a) Our timbered areas, (b) Rate of destruction of our forests, (c) Economy in the use of timber, (d) The problem of reforestation.
 - D. Water power.
 - (a) Amount of water power in the United States, (b) Advantages of water power, (c) Conservation of rainfall for irrigation purposes in connection with power development.
 - E. Conservation of our wild life, especially such animals as furnish meat, furs, hides or such as are useful to the agriculturist.
- II. Conservation of our physical vigor.
 - A. The problem of the physically defective.
 - (a) A tax upon the strong, (b) Measures of prevention, (c) Training to independence.
 - B. The problem of preventable diseases.
 - (a) What diseases are preventable? (b) How such diseases tax society, (c) Means of prevention, (d) Need of social cooperation.
 - C. The Blind.
 - (a) Causes of blindness, (b) Prevention of blindness, (c) Education of the blind, (d) Occupations open to the blind.
 - D. The Deaf.
 - (a) Education, (b) Occupations for the deaf.
 - E. The problem of Health and physical development.
- III. The problem of preserving and increasing our intellectual strength.
 - A. The need of mental equipment to enable us to hold our own in the world struggle, whether peaceful or warlike, for national dominance.
 - B. Need of intellectual power for the solution of our own personal problems.
 - C. Power needed for the solution of social problems.
 - D. The burden of mentally defective.
 - (a) Defective classes, (b) Causes of mental defects, (c) Prevention and cure of mental deficiencies, (d) Education of the mentally defective.
 - E. The necessity of education in a democracy.
 - F. Intelligence the basis of socialization.
- IV. Problems connected with the socialization of our citizens.
 - A. Meaning of socialization.
 - B. Problems that must be confronted and solved in producing social efficiency.
 - (a) The problem of the dependent class.
 - (y) Helping without pauperizing.
 - (z) Training to independence.

- (b) The problem of the anti-social group.
 - (y) Methods.
 - (1) Administration and interpretation.
 - (z) Amending and re-writing.
 - (u) Anti-social classes.
 - (1) Juvenile delinquents, (2) The vicious, (3) Gamblers, (4) Speculators, (5) All classes of criminals.
 - (v) The social purpose in dealing with the anti-social classes.
 - (w) Methods of dealing with the anti-social classes, (treat them as humans)
- (c) The problem of woman's place in a democratic society.
 - (u) Economic aspects—women in industry.
 - (v) Political aspects.
 - (w) Social aspects.
 - (1) Effect of woman's participation in industry and political life on home life—number of marriages—number of divorces.
 - (2) Effect on social life.
- (d) Problems of child labor.
 - (v) Reasons for child labor, (w) Extent of child labor, (x) Effect of child labor.
 - (y) Regulation of child labor.
- (e) The problem of labor, capital and the fair distribution of the product of industry.
 - (r) Industry as cooperation of capital, labor and management.
 - (s) Problem of the adjustment of relations among these factors.
 - (t) Organizations of capital.
 - (u) Organizations of labor.
 - (v) Disputes between capital and labor.
 - (w) Unemployment and the unemployable.
 - (x) Cooperation and profit sharing.
 - (y) Employers' liability for injuries.
 - (z) Legislation regulating the relations of capital and labor.
- (f) The liquor problem.
 - (u) Economic aspects.
 - (v) Social aspects.
 - (w) Political aspects.
- (g) The problem of the immigrant.
 - (u) Economic needs and standards of the immigrant.
 - (v) Racial elements in our immigrant stream.
 - (w) Causes that bring the immigrant to our shores.
 - (x) Need of preventing the exploiting of the immigrant.
 - (y) Distribution of the immigrant,—danger of the ghettos, little Italys, etc.
 - (z) Restriction of immigration.
 - (&) Nationalizing the immigrant. "It is not necessary that a great people be of one race, but they must be of one mind."
- (h) Transportation and communication.
 - (x) The social need. "Transportation means civilization."
 - (y) Agencies.
 - (z) Ownership and control.
- (i) Public Utilities corporations.
 - (y) Function. (2) Regulation.
- (j) Social insurance.
 - (w) The interest of the state in the welfare of the individual.
 - (x) Right of the state to require the individual to carry insurance.
 - (y) Health insurance.
 - (z) Old age insurance or pensions.
- (k) Problems of efficient city government.
 - (v) Failure of city government under the party plan.
 - (w) Newer forms of city government.

- (x) Relation of citizens to efficient city government.
- (1) Problems of international relations.
 - (x) "No entangling alliances" as obsolete as the "Divine right of kings."
 - (y) Commercial relations.
 - (z) Political relations.
- (m) The problem of taxation
 - (u) Necessity for Taxation as social cooperation.
 - (v) Legitimate purposes of.
 - (w) Theories of.
 - (x) Varieties of.
 - (y) Equitable distribution of.
 - (z) Relations of to social progress.

In the discussion that followed Mary B. Garvin, Urbana High School, referred to Mr. Lyle's paper as being very comprehensive and agreed with Mr. Lyle as to the importance of many of the subjects suggested. On the other hand, she asked whether some of these subjects might not be left to courses already organized, as to "sociology" or "socialized economics". She suggested that a course in "vocational guidance" might include many of the points if broadened to a course in "vocational and *social* guidance".

Mr. Rugg of Monmouth asked how far such a course as Mr. Lyle described could go without raising the question of morals, of ethics,—for example, the question what is justice and what the right of man to control himself. He believed there would be need of some preface on moral principles.

The second half of the session was taken up with a very suggestive paper by Professor E. B. Greene of the University on the "Opportunities of a History Teacher in War Time". After discussing the question of the general usefulness of a historian in times like the present, Professor Greene stated that history teachers had an important place to fill. One of their opportunities is to develop as much as possible among their students, and through them at least a portion of the community, a correct perspective. This the study of history can do. Another opportunity lies in the teaching of military history; not so much the technique of campaign, perhaps, for few history teachers are able to do this; but the changes in economic life as a result of the war, and the changes in the relations existing between the individual and the government.

Professor Greene concluded his remarks with a few statements concerning the work of many historical students in bringing history to bear upon practical subjects. They have done this through publications which are intended for the enlightenment of the public. The National Board of Historical Service has been organized, and it has co-operated with others that already existed, particularly with the U. S. Bureau of Education. The Committee on Public Information

has been appointed, and it has been responsible for many valuable publications. Thus historical students have brought their knowledge of history and their love of accuracy into the services of the government.

The teacher is referred to the bulletin prepared by the National Board for Historical Service entitled "Opportunities for history teachers; the lessons of the great war in the classroom," issued by the Bureau of Education, as Teachers' Leaflet No. 1, 1917.

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- (b) The problem of the anti-social group.
 - (y) Methods.
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 - (x) Cooperation and profit sharing.
 - (y) Employers' liability for injuries.
 - (z) Legislation regulating the relations of capital and labor.
- (f) The liquor problem.
 - (u) Economic aspects.
 - (v) Social aspects.
 - (w) Political aspects.
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 - (u) Economic needs and standards of the immigrant.
 - (v) Racial elements in our immigrant stream.
 - (w) Causes that bring the immigrant to our shores.
 - (x) Need of preventing the exploiting of the immigrant.
 - (y) Distribution of the immigrant,—danger of the ghettos, little Italys, etc.
 - (z) Restriction of immigration.
 - (k) Nationalizing the immigrant. "It is not necessary that a great people be of one race, but they must be of one mind."
- (h) Transportation and communication.
 - (x) The social need. "Transportation means civilization."
 - (y) Agencies.
 - (z) Ownership and control.
- (i) Public Utilities corporations.
 - (y) Function. (2) Regulation.
- (j) Social insurance.
 - (w) The interest of the state in the welfare of the individual.
 - (x) Right of the state to require the individual to carry insurance.
 - (y) Health insurance.
 - (z) Old age insurance or pensions.
- (k) Problems of efficient city government.
 - (v) Failure of city government under the party plan.
 - (w) Newer forms of city government.

- (x) Relation of citizens to efficient city government.
- (l) Problems of international relations.
 - (x) "No entangling alliances" as obsolete as the "Divine right of kings."
 - (y) Commercial relations.
 - (z) Political relations.
- (m) The problem of taxation
 - (u) Necessity for Taxation as social cooperation.
 - (v) Legitimate purposes of.
 - (w) Theories of.
 - (x) Varieties of.
 - (y) Equitable distribution of.
 - (z) Relations of to social progress.

In the discussion that followed Mary B. Garvin, Urbana High School, referred to Mr. Lyle's paper as being very comprehensive and agreed with Mr. Lyle as to the importance of many of the subjects suggested. On the other hand, she asked whether some of these subjects might not be left to courses already organized, as to "sociology" or "socialized economics". She suggested that a course in "vocational guidance" might include many of the points if broadened to a course in "vocational and *social* guidance".

Mr. Rugg of Monmouth asked how far such a course as Mr. Lyle described could go without raising the question of morals, of ethics,—for example, the question what is justice and what the right of man to control himself. He believed there would be need of some preface on moral principles.

The second half of the session was taken up with a very suggestive paper by Professor E. B. Greene of the University on the "Opportunities of a History Teacher in War Time". After discussing the question of the general usefulness of a historian in times like the present, Professor Greene stated that history teachers had an important place to fill. One of their opportunities is to develop as much as possible among their students, and through them at least a portion of the community, a correct perspective. This the study of history can do. Another opportunity lies in the teaching of military history; not so much the technique of campaign, perhaps, for few history teachers are able to do this; but the changes in economic life as a result of the war, and the changes in the relations existing between the individual and the government.

Professor Greene concluded his remarks with a few statements concerning the work of many historical students in bringing history to bear upon practical subjects. They have done this through publications which are intended for the enlightenment of the public. The National Board of Historical Service has been organized, and it has co-operated with others that already existed, particularly with the U. S. Bureau of Education. The Committee on Public Information

has been appointed, and it has been responsible for many valuable publications. Thus historical students have brought their knowledge of history and their love of accuracy into the services of the government.

The teacher is referred to the bulletin prepared by the National Board for Historical Service entitled "Opportunities for history teachers; the lessons of the great war in the classroom," issued by the Bureau of Education, as Teachers' Leaflet No. 1, 1917.

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